Youth subcultures and problem behaviours in Slovakia

Bobakova, Daniela

Youth subcultures and problem behaviours in Slovakia: Hip-Hop, Techno-scene, Metal, Punk, Skinheads, and Roma

Daniela Bobáková

Thesis for the University of Groningen, the Netherlands – with summary in Dutch and Slovak

Correspondence:
Daniela Bobakova
daniela.bobakova@upjs.sk

This study was supported by the Slovak Research and Development Support Agency (APVV) under Contract No.: APVV-20-038 205 and APVV-0032-11 and was partially supported by the Agency of the Slovak Ministry of Education for the Structural Funds of the EU, under project ITMS: 26220120058 (30%).

The printing of this thesis was supported by the Graduate School for Health Research (SHARE), the Graduate School Kosice Institute for Society and Health (KISH), the University Medical Center Groningen (UMCG) and the University of Groningen.

Design and Layout: Daniela Bobakova, Katarina Rosicova, Jana Holubčíková
Cover background picture: Robert Farkas, Katarina Rosicova
Language corrections: David L. McLean
Press: Equilibria s.r.o., Košice
Printed in the Slovak Republic

ISBN 978 90 367 6169 7

RIJKSUNIVERSITEIT GRONINGEN

Youth subcultures and problem behaviours in Slovakia: Hip-Hop, Techno-scene, Metal, Punk, Skinheads, and Roma

Proefschrift

ter verkrijging van het doctoraat in de
Medische Wetenschappen
aan de Rijksuniversiteit Groningen
op gezag van de
Rector Magnificus, dr. E. Sterken,
in het openbaar te verdedigen op
maandag 24 juni 2013
om 12.45 uur

door

Daniela Bobáková

geboren op 10 juli 1984

te Košice, Slowakije

Promotor:	Prof. dr. S.A. Reijneveld	
Copromotores:	Dr. J.P. van Dijk	
	Dr. A. Madarasova Geckova	Safarik University, Kosice, Slovak Republic
Beoordelingscommissie:	Prof. Dr. T.F.M. ter Bogt	Universiteit Utrecht
	Prof. Dr. A. Dijkstra	
	Prof. Dr. A.V. Ranchor	

Contents

Chapter 1

Introduction

This thesis captures a wide scale of health-related and school-related problem behaviours in youth subcultures such as Hip-hop, Punk, Skinheads, Techno-scene, Metal and, very specifically, the Roma subculture. It assesses the association between subculture affiliation and these behaviours in the context of peer and parental influences. This chapter briefly describes youth subcultures (Hip-Hop, Techno-scene, Metal, Punk, and Skinheads, and Roma) and adolescent problem behaviours, provides the theoretical background for the thesis and presents the main aims of this study as well as the associated research questions.

1.1 Youth subcultures

Subcultures are dynamic entities usually understood as a group holding a distinctive world view that results in limited social interaction with the wider society or as an ethnic group isolated on the periphery of society (Dowd & Dowd, 2003). Youth subcultures are complex value orientations (esthetical, political), symbols, patterns of behaviour and lifestyle of groups of young people representing an independent integrated formation within the framework of a nation's general culture (Latysheva, 2011). Another way of understanding the concept of subcultures is studying ethnic subcultures – from culturally distinct and not fully assimilated groups (Dowd & Dowd, 2003).

1.1.1 Hip-Hop, Techno-scene, Metal, Punk, and Skinheads.

Lifestyle, music preference, shared values and behaviours of young people can be understood as components of youth subcultures (Nicholas, 2009). Conversely, popular/mainstream culture adopts many elements of subcultures, such as clothing, music, piercings or tattoos (Moore, 2005). Youth subcultures seem to be examples of the unstable and shifting cultural affiliations which characterise late modern consumer-based societies (Bennett, 1999). Other terms, such as lifestyles, youth cultures, scenes, neo-tribes, social crowds, etcetera, are also frequently used instead (Bennett, 1999; Hodkinson & Deicke, 2007; Nicholas, 2009). We decided to adhere to the term 'youth subcultures', which satisfactorily captures the nature of the phenomenon.

Hip-Hop as a subculture originated in New York in the 1970s in an environment of neighbourhoods populated predominantly by African-Americans. Over the years it has developed into its present form – a global urban youth subculture. Hip-hop subculture is relatively developed, with custom dress codes, its own music, slang, style of cars, hairstyles and recently even movies. Typical elements of this subculture are not only graffiti, breakdancing, DJing, MCing (rap), and beatbox (Smolik, 2010) but

also alcohol, marijuana and a strong ubiquitous sexual and delinquent context. Hip-Hop is often connected with skateboarding or snowboarding. The typical appearance includes white sneakers, oversized clothing and extravagant accessories. Several Hip-Hop music styles can be distinguished, such as *Gangsta rap, G(hetto)-funk, Freestyle rap, Pop rap, or Latin rap* (Smolik, 2010).

The ***Techno–scene***, or rave culture, is created around dance music centred in clubs and open-air festivals and parties using sounds that are derived from various roots, including 1970s disco and 1980s electronica and using technology such as sampling and scratching (Huq, 2006). It includes many styles of music, such as *Acid house, House, Rave, Trance, Psychedelic, Chill-out, Drum & base, Techno, Garage,* etcetera. For the dance music generation computer technology, foreign travel and drugs have largely been normalised (Huq, 2006). Techno-scene is characterised by rhythmical music, flashing lights, the cult of the DJ, free love image, colourful fashion and substance use. Techno has no real ideology; it is based on individual enjoyment and its underlying idea can be expressed by the acronym PLUR (peace, love, unity, respect) (Smolik, 2010).

Metal is a complicated, shattered subculture with many musical styles and often contradictory streams (e.g. *Christian metal* vs. *Black metal*) (Smolik, 2010). The year 1970, when the album Paranoid from Black Sabbath was released, is considered to be the beginning of Metal history (Smolik, 2010). Since that time the Metal subculture has become a synonym for controversy, as it has been associated with many negative social phenomena (e.g. an increased number of suicides and sexual assaults among teenagers as well as substance use). A 'Metal' image includes long hair, denim or leather dress, provocative writings or spectacles on T-shirts (crucifixion, sexual practices, etc.), dark eye makeup and leather accessories with metallic spikes. This appearance, together with provocative lyrics, caused Metal to be labelled as the devil's bearer in many religious countries. Nowadays many Metal music styles are known, such as *Glam metal, Trash metal, Death metal, Black metal* and many more.

Punk has its roots in the British working-class youth of the 1970s. Glam and glitter rock as music genres set the direction not only in music but also in clothing. The Punk era begun with artists like David Bowie, Lou Reed, the Sex Pistols and Roxy Music (Hebdige, 2003). Punks rejected societal norms, values and social snobbism and wanted to provoke, ironise and highlight the social divisions in society (Smolik, 2010). In its essence Punk was apolitical, antiracist and anti-ideological. Over time, however, a tendency to anarchist ideas appeared; thus Punk acquired a political dimension. The Punk subculture can be characterised by leather jackets, tight trousers, big army shoes, crazy and colourful hairstyles, a large number of piercings and tattoos, loud punk-rock music with an unbound dance style (pogo) and clear-cut opinions and attitudes towards many societal issues (Smolik, 2010). Nowadays more branches of punk are known such as *Hardcore, Emo and Straight Edge*.

Skinheads arose in Britain in the 1960s in response to rising unemployment in urban areas. Their predecessors were Teddy boys, Mods and Rockers (Smolik, 2010). The first members of Skinheads did not have political goals. Originally, skinhead groups were associated with a certain type of music (ska, Oi, Hard-core, Punk) and lifestyle and not only originally rejected the orthodox ideas of Nazism, but its members were apolitical. Previously, other streams of Skinheads were known, such as *SHARP (Skin Heads Against Racial Prejudices) or RASH (Red and Anarchist Skin Heads)* (Smolik, 2010). However, today we can see a radicalisation and politicisation of the greater part of skinhead subculture, the recruitment of radical right-wing skinheads

(Dzambazovic, 2006) and the popularisation of Nazi or WP (White Power) Skinheads. These skinheads worship several "white race heroes", such as Rudolf Hess and other Nazi leaders, use the symbolism of traditional national-socialism as well as that of pagan or mythological roots (Celtic, Germanic, Slavic) and listen to WPM (White Power Music) (Smolik, 2010). Music preference seems to be the core component of youth subcultures, causing such subcultures to be denoted frequently on that basis (Hodkinson & Deicke, 2007). Music also plays an important role in peer-group formation (Bakagiannis & Tarrant, 2006; Selfhout, Branje, ter Bogt, & Meeus, 2009), adolescents' identity-finding, self-perception, shared values, conflicts and other social and developmental issues (Baker & Bor, 2008; Schwartz, 2004). Adolescents feel the need to be accepted and respected by a group of their closest friends. While longing for acceptance among this group, they accept norms and behavioural patterns which are often manifested as problem behaviour (Nurmi, 2004; Tarrant, MacKenzie, & Hewitt, 2006). In Slovakia, currently the most common specific youth subcultures are Hip-hop, Punk and Metal, Skinheads and the Techno-scene, which is also known as Rave culture. However, the majority of the Slovak youth belongs to the so-called Mainstream, including Middle-of-the-road listeners (Bobakova, 2009).

We need to distinguish between music preference and the subculture itself even if the denomination is the same (e. g. Hip-Hop music and Hip-Hop subculture). In general, only a part of those who like a specific type of music really denote themselves as being part of the subculture that has been linked specifically to that music genre. This then leads to names derived from a specific music genre ("rockers," "punks," "metal kids") (Selfhout et al., 2008). Selfhout et al. (2008), who examined Hip-Hop and Heavy Metal style preferences, found the correlation between peer-crowd identification and music preference to be less than 0.5. Being affiliated to a youth subculture is not only having a related music preference. Youth subcultures are also known for the specific lifestyles, clothing, hairstyles, accessories, shared values and behaviours of their members.

We know more about the association between music preference in itself (Hodkinson & Deicke, 2007) and problem behaviour than about the association between actual youth subculture affiliation and problem behaviour. Regarding music preferences previous studies have associated musical genres such as Hip-hop/Rap, Punk/Hardcore, Rock or Metal with substance use (Bakagiannis & Tarrant, 2006; Forsyth, Barnard, & Mckeganey, 1997; Lim et al., 2008; Mulder et al., 2009; Pedersen, 2009), fighting, stealing, or having unprotected sexual intercourse (Miranda & Claes, 2004; Mulder et al., 2007; North & Hargreaves, 2006; Simi, Smith, & Reeser, 2008; Tanner, Asbridge, & Wortley, 2009). Only a few studies examined sexual behaviour in adolescent groups sharing specific music preferences. Hip-hop/Rap, Metal and Rock in particular have been shown to be associated with inappropriate beliefs and behaviours regarding sex and relationships (Agbo-Quaye & Robertson, 2010; Arnett, 1992; ter Bogt et al., 2010; Kistler & Lee, 2010; Munoz-Laboy, Weinstein, & Parker, 2007; Took & Weiss, 1994; Zhang, Miller, & Harrison, 2008). Only one study examined the association between music preference and academic achievement (Bannon, 2006), but did not find them to be associated. Moreover, nothing is known about the association between music preference and other problem behaviours.

Even less evidence is available on the associations of actual subculture affiliation (rather than only music preference related to a subculture) with adolescent problem behaviour. Only a few studies have examined problem behaviour of youth subcultures in the age crucial for establishing health-related behaviour. These

studies associated subculture affiliation with substance use (van der Rijt et al., 2002; Verkooijen, de Vries, & Nielsen, 2007) and fighting (Selfhout et al., 2008; Simi et al., 2008). More studies examined older age-groups and found the same regarding substance use (Allaste & Lagerspetz, 2002; Anderson et al., 2009; Racz, 1992). Evidence on the association between youth subcultures and academic achievement, truancy, or sexual behaviour is fully lacking. Moreover, the role of peer and parental influence as crucial factors affecting problem behaviour in adolescents have not been examined.

1.1.2 Roma ethnicity

Another way of understanding the concept of subcultures is by ethnic subculture, i.e. as culturally distinct and not fully assimilated groups (Dowd & Dowd, 2003). One of the largest European minority populations, especially in Central Europe, are Roma (Gypsies), whose population in the Slovak Republic is estimated at 430,000 (8% of the total population). Approximately 15% of school-aged children are Roma (Marcincin & Marcincinova, 2009). Roma are a diverse population, with multiple subgroups based on language, history, religion and occupations (Koupilova et al., 2001) and burdened by an extremely high degree of territorial segregation, poverty and perceived discrimination (EU-MIDIS, 2009).

Policies toward Roma can be broadly grouped into three categories: exclusion, containment and assimilation – all resulting in a negation of Roma, their culture and their language (Brearley, 2001; Liegeois & Gheorghe, 1995). Slovak Roma have become extremely marginalised, being removed almost entirely from participation in the social life of the dominant culture. Through the years they constantly resisted assimilation despite several waves of governmental assimilation programmes in previous centuries (Liegeois & Gheorghe, 1995). Roma are characterised by a low educational level leading to low employment rates and resulting in a high dependency on welfare benefits passed from one generation to the next in a “circle of failure” (Marcincin & Marcincinova, 2009). Further consequences are poor housing conditions, criminality, substance use, an unhealthy lifestyle and poor health status. (Fundacion Secretariado Gitano (FSG), 2009; Hajioff & McKee, 2000; Marcincin & Marcincinova, 2009; Zeman, Depken, & Senchina, 2003). The worst situation concerns the separated and segregated Roma settlements (EU-MIDIS, 2009), in which the situation seems to deteriorate even further.

The general public tends to assume that Roma have a higher prevalence of substance use, which seems to be true particularly for young Roma adults and older age groups (Csepe et al., 2007; FSG, 2009; Kosa et al., 2007; Ringold, Orenstein, & Wilkens, 2005; Skaric-Juric et al., 2007). Roma adolescents seem to score higher in lifetime prevalence of smoking and alcohol use and intoxication compared with their non-Roma counterparts (Gerevich et al., 2010; Puporka & Zadori, 1999). In contrast, some studies have found no differences or the opposite regarding current smoking, drinking or alcohol intoxication (Kanapeckiene et al., 2009, Kolarcik et al., 2010). Nevertheless, very few studies of sufficient quality on Roma substance use exist. In general, the evidence is rare and the available studies are burdened with methodological problems.

1.2 Adolescent problem behaviour

Behaviours have health consequences not only in biomedical terms but also in terms of social, personal and psychological outcomes (Jessor, 1992). Different adolescent problem behaviours, such as substance use, violence, risky sexual behaviour or poor academic achievement, are highly correlated; they predict and are predicted by each other and have many of the same risk and protective factors (Flay, 2002). Many theories explaining the roles of particular factors in problem behaviour formation can be found in the literature (Flay, 2002; Jessor, 1992; Petraitis, Flay, & Miller, 1995). Smoking, drinking, illicit drug use or early sexual activity can be instrumental in gaining peer acceptance and respect; in establishing autonomy from parents; in dismissing the norms and values of conventional authority; in coping with anxiety, frustration, and anticipation on failure; or in affirming maturity and marking a transition out of childhood toward a more adult status (Jessor, 1992). Research findings indicate the clustering of different types of problem behaviour (Flay, 2002; van Nieuwenhuijzen et al., 2009). This clustering changes throughout adolescence until established in adulthood, when patterns of health-compromising and delinquent behaviour seems to be crystallised (van Nieuwenhuijzen et al., 2009). According to van Nieuwenhuijzen et al. (2009) there are two strongly correlated clusters in young adolescents: a broad cluster of risk-taking behaviour and a second cluster of substance use which probably reflects the life phase in which young adolescents experiment with substances. Reijneveld et al. (2012) showed that among adults, the clustering of health behaviours did indeed differ by ethnicity.

Problem-behaviour theory arises from the presumption that susceptibility to various problem behaviours results from attachments to family and peers, social modelling and the substance-specific behaviours of friends and family members (Jessor, 1991). Five categories of factors that contribute to the formation and maintenance of problem behaviour were identified: (1) biological and genetic factors, (2) social context, (3) social models (4) personality factors, (5) behavioural factors (Jessor, 1991). We focus on the social context and social models (parental bonding, parental monitoring, peer behaviour, parental behaviour, socioeconomic status and ethnicity), and therefore we will pay some more attention to these factors in following chapters.

1.2.1 Substance use

Substance use, i.e. the use of psychoactive substances (tobacco, alcohol and drugs) is not acceptable in early adolescence considering the possible later consequences. Substance use is associated with mortality, social and physical harm, negative health and legal consequences, whereas young adolescence is a crucial period for establishing substance use behaviour (Currie et al., 2008a). Early onset and subsequent regular use of substances make addiction more likely to develop. Peer and parental influences are important factors associated with an adolescent's substance use (Kuntsche et al., 2004; Eitle, 2005; Mayberry et al., 2009; Wang et al., 2009). Adolescence is a period when parental influence decreases, while peer influence increases in such a way that both social worlds become equally important and overlapping towards late adolescence (De Goede et al., 2009).

Substance use by peers and the resulting peer pressure is significantly associated with adolescents' substance use (Glaser, Shelton, & van den Bree, 2010;

Mayberry, Espelage, & Koenig, 2009). On the other hand, existing substance use patterns could possibly determine adolescents' peer selection (Madarasova Geckova et al., 2005). Thus, both pathways – peer socialisation and peer selection – seem to play a role in the initiation and progression of adolescent substance use (Simons-Morton, 2007). Adolescents' substance use is associated with substance use by peers within three dimensions (best friendships, cliques, social crowds, e.g. subcultures) (Hussong, 2002). Adolescents who are more dragged into a substance-using peer context across these three dimensions are more likely to use substances themselves (Hussong, 2002).

Identifying factors that may protect the youths concerned is very important. Family factors were found to be strong mediators of adolescents' substance use (Raboteg-Saric, Rijavec, & Brajsa-Zganec, 2001; Wang et al., 2011; Wills & Yaeger, 2003). One factor is parents' awareness of the adolescent's activities and whereabouts, i.e. parental monitoring (Smetana & Daddis, 2002). This has been shown to be highly protective against adolescents' substance use in many previous studies (Barnes et al., 2006; Raboteg-Saric, Rijavec, & Brajsa-Zganec, 2001; Wang et al., 2011; Wills & Yaeger, 2003). Second, bonding between adolescents and their parents has also been shown to be related to lower substance use among adolescents (Wang et al., 2011; Wills & Yaeger, 2003). Third, parents' substance abstinence or controlled use provides a social modelling that may be protective regarding substance use. Evidence shows that adolescents whose parents do not use substances are indeed less likely to use substances themselves (Grayson, 2011; Walden, Iacono, & McGue, 2007). Boys and older adolescents who receive less monitoring than girls and younger counterparts show a steeper trajectory in the development of alcohol misuse (Barnes et al., 2000).

1.2.2 Violent and school-related behaviour

Substance use is commonly associated with other problem behaviours, such as fighting, truancy and low academic achievement (Fleming et al., 2010; Fraga et al., 2011; Henry, 2010; Reid, 2010; Swahn et al., 2009), and the accumulation of these factors seems to be rather hazardous regarding successful adulthood and health-related outcomes (Childs, Sullivan, & Gulledge, 2011; Haller et al., 2010; Jessor, 1991).

Physical fighting is the most common manifestation of interpersonal violence in adolescence (Nansel et al., 2003). It is highly visible and often results in injuries; thus fighting behaviour is one of the most reliable markers of multiple-risk behaviours and other problem behaviours (Sosin et al., 1995). Physical fighting among school-going adolescents is likely to occur at school and to cluster with other adverse health behaviours (Fraga et al., 2011). Several factors influence the likelihood of fighting, such as peer norms for aggression, delinquent peer associations or parental support for fighting (Fraga et al., 2011).

Truancy is a behaviour that is likely to result in multiple negative consequences, such as low academic achievement, low educational aspirations, delinquency, or substance use, for both the truants themselves and for society (Henry, 2007; Henry, 2010; Lucio, Rapp-Paglicci, & Rowe, 2011; Reid, 2010). This additional unsupervised time creates the space for engagement in other problem behaviours (Henry, 2007). Background characteristics, such as gender, socioeconomic status and family composition, are important predictors of truancy together with school and family attachment (Veenstra et al., 2010). Boys with lower socioeconomic status or from incomplete families and those with lower levels of attachment with family and school

are more likely to skip school.

Objective and subjective academic achievement are considered to be important educational outcomes determined by school performance. Academic achievement is an important predictor of future life chances, including educational and employment opportunities, but also for adult morbidity and premature mortality (Currie et al., 2008a; Flook & Fuligni, 2008). Moreover, it predicts problem behaviour in early adulthood (Fleming et al., 2010).

Similarly as in substance use, family factors, such as parental monitoring and parental bonding, were also found to be protective factors with regard to adolescents' fighting, truancy and academic achievement in several previous studies (Connell et al., 2011; Henry, 2007; Kristjansson & Sigfusdottir, 2009; Solomon et al., 2008; Springer et al., 2006). These studies found that adolescents perceiving higher levels of parental monitoring and parental bonding were involved less frequently in a physical fight, skipped school less often and had better academic achievement compared with others.

1.2.3 Risky sexual behaviour

One of the most important factors which affect many dimensions of future sexual health and behaviour is the timing of sexual debut. Early sexual initiation (commonly defined as before age 16) has been previously shown to have serious short- and long-term health-compromising consequences, because adolescents are usually not competent and capable of dealing with the consequences (Currie et al., 2008a).

It has been previously shown that early sexual initiation is associated, for example, with self-perception, well-being, social status, future health behaviour (Magnusson & Trost, 2006) and a higher occurrence of sexually transmitted diseases (Hawes, Wellings, & Stephenson, 2010; Kaestle et al., 2005; Sandfort et al., 2008). The risk of infection is relatively high even after the first sexual partner (Forhan et al., 2009). Furthermore, early sexual initiation increases the risk of early pregnancy, feelings of regret (Hawes et al., 2010) or a higher number of sexual partners in the future (Sandfort et al., 2008; Kalina et al., 2009). Moreover, early sexual initiation seems to be associated with broader clusters of risk behaviour, including substance use, delinquency, violent behaviour or even suicidality (French & Dishion, 2003; Heidmets et al., 2010).

The most important factors associated with the timing of sexual debut concern peers and parents. Peer norms, attitudes and behaviours regarding sexual intercourse have a crucial influence on adolescents' sexual behaviour (French & Dishion, 2003; Hampton, McWatters, Jeffery, & Smith, 2005; Kalina, 2012; L'Engle & Jackson, 2008; Rosenthal et al., 2001). Perceived peer approval of sexual intercourse, peers having sexual intercourse, and having deviant peers are associated with a higher probability of early sexual initiation (French & Dishion, 2003; Hampton et al., 2005; L'Engle & Jackson, 2008; Rosenthal et al., 2001). In contrast, strong parental bonding and monitoring, good communication with parents and living in a complete family are associated with delayed sexual initiation and other aspects of healthy sexual behaviour (de Graaf et al., 2010; de Graaf et al., 2011; French & Dishion, 2003; Hawes et al., 2010; Huang, Murphy, & Hser, 2011; L'Engle & Jackson, 2008; Sieverding et al., 2005).

1.3 Aims of the study and research questions

The purpose of this study was to assess the associations between subculture affiliation (Hip-hop, Techno-scene, Metal, Punk, Skinheads, Roma) and problem behaviour (substance use, fighting, truancy, low academic achievement and early sexual initiation). We also aimed to explore whether peer- and parent-factors affect these associations. Furthermore, we looked into the role of gender and socioeconomic differences in these associations. Figure 1.1 presents the model of the relationships between the key constructs examined in this thesis.

The following research questions were formulated:

Research question 1:

Is youth subculture affiliation associated with a higher risk of substance use? How do gender, family affluence and substance use by peers contribute to this association? (Chapter 3)

Research question 2:

Do protective factors such as parental monitoring, parental bonding and parental substance abstinence affect the association between youth subculture affiliation and substance use? (Chapter 4)

Research question 3:

Is there an association between subculture affiliation and fighting, truancy and low academic achievement? Do parental monitoring and parental bonding affect these associations? (Chapter 5)

Research question 4:

Is there an association between subculture affiliation and early sexual initiation? How do gender, family affluence, peer influence, lack of parental bonding and lack of parental monitoring contribute to this association? (Chapter 6)

Research question 5:

Does the influence of peers and parents on adolescents' drunkenness differ between Roma and non-Roma adolescents? (Chapter 7)

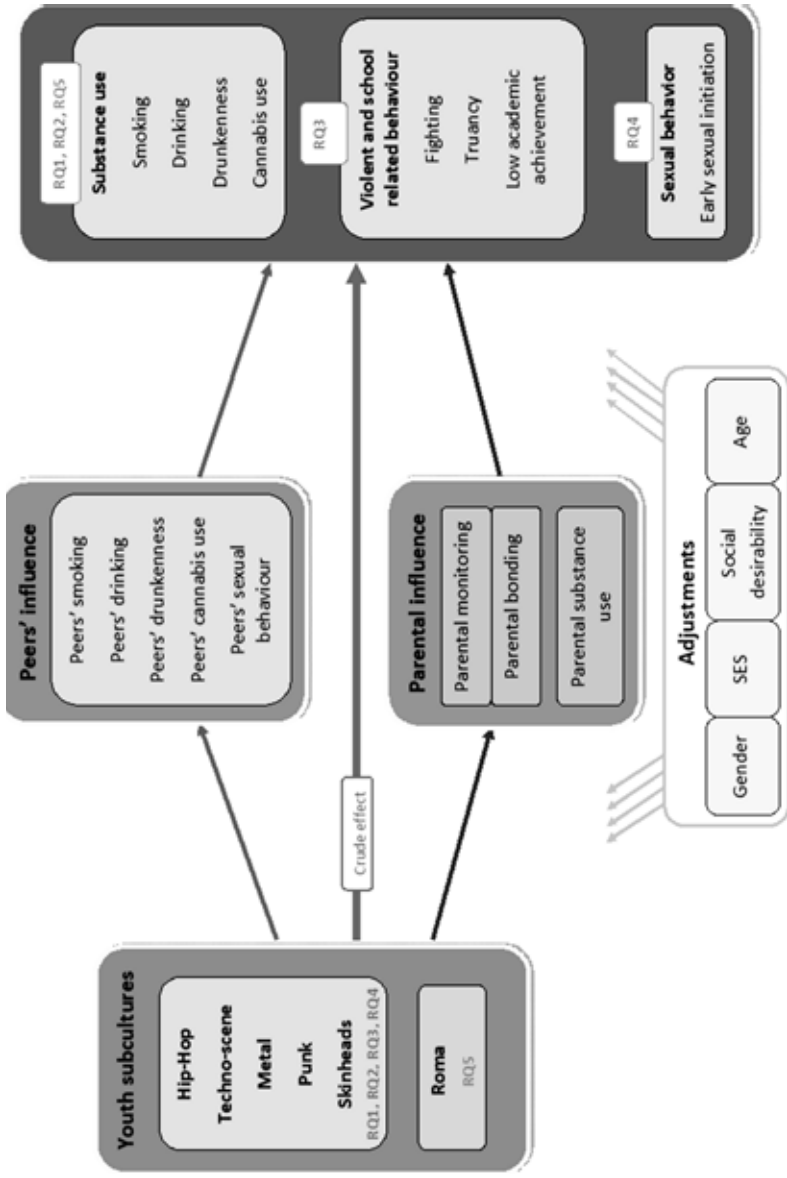

Figure 1.1 Model of the relationships examined in the thesis.

1.4 Structure of the thesis

Chapter 1 provides general information and the scientific background on youth subcultures (Hip-Hop, Techno-scene, Metal, Punk, Skinheads, and Roma) and various problem behaviours (substance use, violent and school-related behaviour, and sexual behaviour). Furthermore, the purpose of this study and the research questions are formulated here.

Chapter 2 explains the design of the study and describes data collection from the two research samples used for its purpose, as well as the measures and statistical analyses.

Chapter 3 explores the association between subculture affiliation (Hip-hop, Techno-scene, Metal, Punk, Skinheads) and substance use (tobacco, alcohol and cannabis), and whether gender, family affluence and substance use by peers explain this association.

Chapter 4 examines whether protective factors, such as parental monitoring, parental bonding and parental substance abstinence, affect the association between subculture affiliation and adolescents' substance use.

Chapter 5 assesses the association between subculture affiliation and fighting, truancy and low academic achievement and explores whether parental monitoring and parental bonding affect these associations.

Chapter 6 deals with the association between subculture affiliation and early sexual initiation and explores whether gender, family affluence, peer influence, lack of parental bonding and lack of parental monitoring explain this association.

Chapter 7 finally focuses on the Roma subculture and explores differences in the levels of peer and parental influence and their effects on drunkenness between Roma and non-Roma adolescents.

Chapter 8 discusses the main findings of the previous chapters and examines their strengths and limitations. It also proposes implications for practice and further research.

Chapter 2

Data sources

This chapter provides a description of data collection from the two samples used in this study as well as the measures and statistical analyses employed.

2.1. Study samples and procedures

The first study sample was obtained from the Health Behaviour in School-aged Children (HBSC) study conducted in 2010 in Slovakia. The study was approved by the Ethics Committee of the Faculty of Medicine at the P.J. Safarik University in Kosice. Parents were informed about the study via the school administration and could opt out if they disagreed with their child's participation in it. Participation in the study was fully voluntary and anonymous with no explicit incentives provided for participation. Questionnaires were administered by trained research assistants in the absence of a teacher during regular class time. From a list of schools based on information from the Slovak Institute of Information and Prognosis for Education, 134 larger and smaller schools located in rural as well as in urban areas from all regions of Slovakia were randomly chosen to create a representative sample. Out of 108 schools contacted, 106 took part in our survey, representing a 98.1% school response rate. Classes from the 5th to 9th grades were selected randomly, one from each grade per school. We obtained data from 8,491 adolescents from the 5th to 9th grade (response: 79.5%). For the purposes of this thesis 1,380 15-year-old adolescents from the 8th and 9th grades who completed the question about youth subcultures were included in the analyses.

A second study sample was obtained from a study conducted in 2007 on Roma adolescents from separated and segregated Roma settlements and on a comparative sample. The study was approved by the Ethics Committee of the Faculty of Science at P.J. Safarik University in Kosice. Parents were informed of the study via the school administration and could opt out if they disagreed with their child's participation in it. Participation in the study was fully voluntary and anonymous with no explicit incentives provided for participation. We contacted 22 primary schools in small towns and villages in the eastern part of Slovakia which were located near separated or segregated Roma communities; the schools were selected from a list provided by the Slovak Institute of Information and Prognosis for Education. Out of the 15 schools which met the criteria (at least 30 children aged 13 years or older and currently living in Roma settlements, the ability to offer separate rooms where interviews could be conducted, and the availability of a list of children suitable for our study), 14 were willing to participate. After stratification by gender, respondents were chosen randomly from the lists of pupils living in Roma settlements prepared by the schools. Interviews were conducted individually during regular class time by community workers trained for the study. The final sample comprised 330 Roma

(mean age=14.50; SD=1.03; 48.5% boys), representing a 99.7% response rate.

Non-Roma were selected in order to provide a representative sample of adolescents from the majority population of comparable ages as the Roma sample. For comparison, 15 randomly chosen schools in the same geographical area and having no evident Roma community in the vicinity were asked to participate in the study. Out of these, 11 were willing to participate, but two were excluded because they did not have at least one class of eighth and ninth grade that had not previously been included in a research project from our department. The questionnaires were administered during regular class time by trained research assistants in the absence of teachers. The questionnaire asked the same questions as the structured interview in the Roma sample. The final sample comprised 722 non-Roma (mean age=14.86; SD=0.63; 53.2% boys), representing a 95.9% response rate.

Chapter 3

Subculture affiliation is associated with substance use of adolescents

Daniela Bobakova, Andrea Madarasova Geckova, Sijmen A. Reijneveld, Jitse P. van Dijk

Published: European Addiction Research, 2012, 18(2): 91-96

Abstract

Youth subcultures (Hip-hop, Punk, Skinheads, Techno-scene, Metal) are known for specific lifestyles, music preferences, shared values and behaviours of their members. The aim of this study was to assess the association between subculture affiliation and substance use (tobacco, alcohol and cannabis), and whether gender, family affluence and substance use by peers explain this association. Subculture affiliation was significantly associated with substance use (odds ratio/95% confidence interval: smoking 3.13/2.30-4.24; drinking 2.58/1.95-3.41; drunkenness 2.02/1.54-2.66; cannabis use 2.42/1.46-4.00). Only a part of this risk runs via gender, family affluence and peer substance use. Health promotion should be targeted in particular on adolescents with a subculture affiliation as they are in higher risk of substance use.

Keywords: *adolescents, subcultures, substance use, family affluence, peer influence, Slovakia*

Introduction

Lifestyle, music preference, shared values and behaviours of young people can be understood as components of youth subcultures (Nicholas, 2009). Adolescents feel the need to be accepted and respected by a group of their closest friends. While longing for acceptance among this group, they assume norms and behaviour patterns which are often manifested as a risky behaviour (Nurmi, 2004; Tarrant, MacKenzie, & Hewitt, 2006) including substance use (Simons-Morton & Chen, 2006).

Music preference seems to be the core component of youth subcultures, causing such subcultures to be denoted frequently on that basis (Hodkinson & Deicke, 2007). Music plays an important role in peer-group formation (Bakagiannis & Tarrant, 2006; Selfhout et al., 2009), adolescents' identity-finding, self-perception, shared values, conflicts and other social and developmental issues (Baker & Bor, 2008; Schwartz, 2004). A number of previous studies (Forsyth, Barnard, & Mckeganey, 1997; Mulder et al., 2009; Pedersen, 2009) have shown an association between music preference and substance use in young people. In these studies adolescents with preferences for loud energising types of music were more likely to report substance use.

Previous studies have explored the associations between social and cultural identifications, like those associated with subculture affiliation and substance use (Allaste & Lagerspetz, 2002; Anderson et al., 2009; Racz, 1992; van der Rijt, d'Haenens, & van Straten, 2002; Verkooijen, de Vries, & Nielsen, 2007), but none of them examined adolescents in Central Europe. The situation in Central Europe can be similar due to globalization, but might differ due to delayed and lately accelerated emergence of the youth subcultures in the environment of the post communist countries after the Velvet revolution in 1989. Moreover, only a few studies examined this issue focusing on the age crucial for identity finding and development of substance use patterns.

Therefore, the aim of this study was to assess the association between subculture affiliation and substance use (tobacco, alcohol and cannabis), and whether gender, family affluence and substance use by peers explain this association.

Methods

Sample and procedure

We used data from the Health Behaviour in School-aged Children (HBSC) study conducted in May – June 2010 in Slovakia. From a list of schools based on information from the Slovak Institute of Information and Prognosis for Education, 134 larger and smaller schools located in rural as well as in urban areas from all regions of Slovakia were randomly chosen to create a representative sample. We contacted 108 schools, and 106 schools took part in our survey, representing a 98.1% school response rate. According to the protocol of the HBSC study classes from the 5th to 9th grades were selected randomly, one from each grade per school. We obtained data from 8,491 adolescents from the 5th to 9th grade of elementary schools in Slovakia (response: 79.5%). Non-response was primarily due to illness (10.3%) and parental disapproval of the participation of their children (7.4%). Only 15-year-old adolescents from the 8th and 9th grades were asked questions about subcultures and cannabis use. This

represents the final sample of 1,605 adolescents (mean age=15.47, 49.7% boys) in the target age group of elementary schools in Slovakia. Due to a missing response on the question about youth subcultures, 225 respondents were excluded. Analyses were performed on a total sample of 1,380 adolescents.

The study was approved by the Ethics Committee of the Faculty of Medicine at the P.J. Safarik University in Kosice. Parents were informed about the study via the school administration and could opt out if they disagreed with it. Participation in the study was fully voluntary and anonymous with no explicit incentives provided for participation. Questionnaires were administrated by trained research assistants in the absence of a teacher during regular class time.

Measures

Family affluence - was measured by the Family Affluence Scale II (FAS II) (Currie et al., 2008a; Currie, et al., 2008b), which consists of four questions: How many computers does your family own (None / One / Two / More than two)? Does your family own a car, van or truck (No / Yes, one / Yes, two or more)? Do you have your own bedroom for yourself (No / Yes)? During the past 12 months, how many times did you travel away on holiday with your family (Not at all / Once / Twice / More than twice)? The sum score was computed, and a three-point ordinal scale was used in the analysis: low affluence (score = 0–3), middle affluence (score = 4–6) and high affluence (score = 7–9).

Subculture affiliation - Respondents were asked whether they would classify themselves as affiliated with one of these lifestyles (subcultures). They were asked to choose only one alternative, the one which best describes them. Possible responses were: Hip – hop / Punk / Skinheads / Techno scene / Metal / Church community / Other / I would not classify myself as affiliated with any subculture. The categories of youth subcultures were chosen according to their anticipated prevalence (Bobakova, 2009). Those who classified themselves as affiliated with one of the selected subcultures (Hip – hop, Punk, Skinheads, Techno scene, Metal) were categorised as "adolescents with a subculture affiliation". The rest of the sample was categorised as "adolescents without a subculture affiliation".

Smoking cigarettes - Respondents were asked how often they smoke cigarettes at present: I do not smoke / less than once a week / at least once a week, but not every day / every day. Those who reported smoking at least once a week were categorised as "smokers".

Drinking alcohol - Respondents were asked how often they drank five different types of alcoholic drinks (beer, wine, spirits, alcopops, and other), with possible responses never / rarely / every month / every week / every day. Those who reported drinking at least one type of alcoholic drink every week were categorised as "alcohol consumers".

Drunkenness - Respondents were asked on how many occasions they had been drunk in the previous 30 days (0 / 1-2 / 3-5 / 6-9 / 10-19 / 20-39 / 40 and more). Those who reported being drunk at least once were categorised as "drunk".

Cannabis use - Respondents were asked on how many occasions they had used cannabis in the previous 30 days (0 / 1-2 / 3-5 / 6-9 / 10-19 / 20-39 / 40 and more). Those who reported using cannabis at least once were categorised as "cannabis users".

Peers - Respondents were asked how many (any / several / most / all) of

their friends with whom they spent most of their free time would they estimate: (1) Smoke cigarettes, (2) Drink alcohol, (3) Get drunk and (4) Use cannabis. Those who reported that at least most of their friends smoke, drink, get drunk or use cannabis were considered to be "exposed to peer influence".

Statistical analyses

We first computed the prevalence rates of adolescents' subculture affiliations for the various youth subcultures. Next, multivariable logistic regression models were run separately for smoking cigarettes, drinking alcohol, drunkenness and cannabis use. Model 1 tested the crude association of subculture affiliation with substance use. Model 2 was adjusted for gender and family affluence (FAS). Model 3 was additionally adjusted for peers' smoking, drinking, drunkenness and cannabis use, respectively, in order to explore whether these explain the associations with the subculture affiliation. We also assessed the interactions between subculture affiliation and peers' risky behaviour separately for peer smoking, drinking, drunkenness and cannabis use. All data were analysed using SPSS 16.0 for Windows.

Results

An overview of the affiliations with particular youth subcultures can be found in Table 1. In our sample 47.1% of adolescents reported having a subculture affiliation with one of the selected subcultures, while and the remaining 52.8% were without a subculture affiliation. Boys (59.2%) reported affiliation with one of the selected subcultures significantly more often than girls (36.3%, $p<0.001$).

Table 1 Prevalence of subculture affiliation with particular youth subcultures.

	Boys		Girls		Total	
Subcultures	n	%	n	%	N	%
Hip - hop	209	32.0	150	20.7	359	26.0
Punk	23	3.5	28	3.9	51	3.7
Skinheads	11	1.7	0	0	11	0.8
Techno scene	77	11.8	60	8.3	137	9.9
Metal	67	10.2	25	3.4	92	6.7
Adolescents with a subculture affiliation	387	59.2	263	36.3	649	47.1
Adolescents witouth a subculture affiliation	267	40.8	463	63.8	729	52.8

Of the adolescents, 18.1% reported smoking, 21.1% reported drinking, 20.7% reported drunkenness and 5.7% reported cannabis use. Substance use was reported significantly more often by adolescents with a subculture affiliation compared with the others, as well as substance use among their closest friends (Table 2).

Table 2 Background characteristics of adolescents with a subculture affiliation (n=650) and other adolescents (n=&730)

	Adolescents with a subculture affiliation		Adolescents without a subculture affiliation		Total (n=1,380)		p (χ2 test)
	n	(%)	n	(%)	n	(%)	
Gender							<0.001
Boys	387	59.5	267	36.6	654	47.4	
Girls	263	40.5	463	63.5	726	52.7	
Family affluence							ns
Low	163	26.7	192	27.4	355	27.0	
Medium	332	54.4	357	50.9	689	52.5	
High	116	19.0	153	21.8	269	20.5	
Substance use							
Smoking	173	26.7	77	10.6	250	18.1	<0.001
Drinking	183	28.7	102	14.3	285	21.1	<0.001
Drunkenness	172	26.7	112	15.4	284	20.7	<0.001
Cannabis use	54	8.4	24	3.3	78	5.7	<0.001
Peers'substance use							
Peer smoking	199	31.3	140	19.5	339	25.0	<0.001
Peer drinking	237	37.5	205	28.6	442	32.8	<0.001
Peer drunkenness	179	28.4	126	17.6	305	22.6	<0.001
Peer cannabis use	37	5.9	22	3.1	59	4.4	<0.05

Subculture affiliation was significantly associated with a higher probability of use of all substances (Table 3, model 1). Adding gender and family affluence into the model partially affected these associations. It decreased the association of subculture affiliation with drinking alcohol by 18.4% and with cannabis use by 30.3% (Table 3, model 2). Regarding other substance use there were minor changes. Adding peer behaviours regarding use of the substance concerned decreased all associations substantially, by 18.8% regarding adolescents' smoking, 31.7% regarding adolescents' drinking, 36.3% regarding adolescents' drunkenness, and 40.1% regarding adolescents' cannabis use (Table 3, model 3). Interactions between subculture affiliation and peers' risky behaviour were not significant (not shown).

Table 3 Associations of subcultures affiliation and substance use.

		Model 1	Model 2	Model 3
		OR (95% CI)	OR (95% CI)	OR (95% CI)
Smoking cigarettes (n=1301)				
Subculture affiliation	No	1 (reference)	1 (reference)	1 (reference)
	Yes	3.13 (2.30–4.24)***	3.10 (2.27–4.24)***	2.73 (1.93-3.87)***
Gender	Girls		1 (reference)	1 (reference)
	Boys		1.02 (0.76-1.38)	1.09 (0.78-1.54)
Family affluence	High		1 (reference)	1 (reference)
	Middle		1.06 (0.73-1.55)	1.07 (0.69-1.66)
	Low		0.87 (0.56-1.35)	0.81 (0.49-1.33)
Peer smoking	No			1 (reference)
	Yes			11.88 (8.51–16.59)***
Drinking alcohol (n=1275)				
Subculture affiliation	No	1 (reference)	1 (reference)	1 (reference)
	Yes	2.58 (1.95–3.41)***	2.29 (1.72–3.05)***	2.08 (1.54-2.82)***
Gender	Girls		1 (reference)	1 (reference)
	Boys		1.79 (1.34-2.37)***	1.94 (1.43-2.63)***
Family affluence	High		1 (reference)	1 (reference)
	Middle		0.99 (0.69-1.41)	1.03 (0.71-1.51)
	Low		0.88 (0.58-1.32)	0.96 (0.62-1.49)
Peer drinking	No			1 (reference)
	Yes			5.29 (3.94-7.11)***

Table 3 (continued)

		Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)
Drunkenness (n=1295)				
Subculture affiliation	No	1 (reference)	1 (reference)	1 (reference)
	Yes	2.02(1.54-2.66)***	1.93 (1.46–2.56)***	1.65 (1.22-2.22)***
Gender	Girls		1 (reference)	1 (reference)
	Boys		1.20 (0.91-1.59)	1.21 (0.90-1.63)
Family affluence	High		1 (reference)	1 (reference)
	Middle		1.22 (0.85-1.76)	1.31 (0.89-1.94)
	Low		1.14 (0.76-1.72)	1.29 (0.83-1.99)
Peer drunkenness	No			1 (reference)
	Yes			5.39 (4.00-7.26)***
Cannabis use (n=1289)				
Subculture affiliation	No	1 (reference)	1 (reference)	1 (reference)
	Yes	2.42 (1.46–4.00)***	1.99 (1.19–3.33)**	1.85 (1.07-3.18)*
Gender	Girls		1 (reference)	1 (reference)
	Boys		2.62 (1.54–4.47)***	2.19 (1.25-3.83)**
Family affluence	High		1 (reference)	1 (reference)
	Middle		0.90 (0.48-1.69)	0.91 (0.46-1.78)
	Low		1.23 (0.62-2.44)	1.31 (0.63-2.72)
Peer cannabis use	No			1 (reference)
	Yes			15.70 (8.43–29.26)***

** p < 0.05, ** p < 0.01, *** p < 0.001*

Discussion

This study assessed the association between subculture affiliation and substance use (tobacco, alcohol and cannabis), and whether gender, family affluence and substance use by peers explained this association. Subculture affiliation was strongly and significantly associated with substance use, and adjustment for gender and family affluence decreased the strength of this association. Adjustment for substance use by peers substantially reduced the associations of subculture affiliation with substance use, but this association remained rather strong and statistically significant.

Studies focused on the same age group as in our study mostly examined the role of music, but not the role of a self-selected subculture. Listening to specific musical genres is closely connected to youth subcultures and is found to be a risk factor of substance use (Baker & Bor, 2008; Forsyth et al., 1997; Mulder et al., 2009; Pedersen, 2009), which is in line with our results. Other previous studies explored the associations between most of the mentioned risky subcultures (Hip-hop, Punk, Skinheads, Techno-scene) and substance use (alcohol, drugs) (Allaste & Lagerspetz, 2002; Anderson et al., 2009; Racz, 1992). Our results are in line with these previous studies, but their respondents were on average older, whereas for establishing health risk behaviour the age of young adolescence seem to be crucial (Currie et al., 2008a).

Countries differ regarding the types of youth subcultures that occur and that their population share; this apparently leads to different associations with substance use as well. Our findings are in line with a few other studies focused on subcultures in a similar age group, but those used different typologies for groups, making their results regarding groups with a higher risk difficult to compare. These studies on Danish and Dutch youths found that adolescents with a subculture affiliation are more likely to report smoking, drinking and soft drug use (van der Rijt et al., 2002; Verkooijen, de Vries, & Nielsen, 2007).

We did not find any differences in family affluence between adolescents with a subculture affiliation and other adolescents. This is in line with Shildrick's and MacDonald's (2006) statement that youths from different social backgrounds can hold similar values shared in a particular subculture. However, there may be other constructs such as work/education-related identities, street-corner socialising, social segregation, leisure lives in neighbourhood based peer groups, ethnic identities and/or articulation of racism in and between subcultures that have to be taken into account (Shildrick & MacDonald, 2006). Also intrapersonal or family factors may play a role in adolescents' substance use (Tomcikova et al. 2011; Veselska et al. 2011). Future research should take these possible pathways leading to subculture affiliation and consequently to substance use into account.

Our findings showed adolescents' substance use to be strongly associated with peers' substance use, which is in line with other studies (Glaser, Shelton, & van den Bree, 2010; Mayberry, Espelage, & Koenig, 2009). This may be due to the fact that the peers who are involved in substance use share also the same subculture affiliation. A similar explanation has been provided by Mulder et al. (2010) regarding music. Music preference can model substance use, and fans of different types of music may select friends with certain use patterns that reinforce their own inclination to substance use (Mulder et al., 2010). We can assume that the association of youth subcultures with adolescents' substance use operates via their peers being involved in the same youth subcultures (Mulder et al., 2009). At the same time, existing substance use patterns could possibly determine adolescents' subculture affiliation

via peer selection (Madarasova Geckova et al., 2005). One way or another, having a subculture affiliation itself increases the risk of being involved in substance use, independent of the influence of peers.

Strengths and limitations

An important strength of our study is that we were able to collect relevant data from a representative sample of adolescents from an age group relevant for identity-finding and stereotyping health-related behaviour. A limitation of our study could be that we used self-reports regarding substances that are in this age-group socially and sometimes legally inadmissible. However, self-reporting such behaviour has been previously shown to offer satisfying reliability (Del Boca & Noll, 2000). Moreover, our findings regarding substance use are comparable to a previous HBSC study (Currie et al., 2008a), so we do not expect this to be a source of bias. Another limitation of this study could be that we were missing data on subculture affiliation from 225 respondents. Compared to the remainder of the sample, we found no or trivial differences regarding use of various substances. We found a medium difference regarding gender (Cohen's w = 0.37), as more boys than girls did not answer this question. This difference could lead to a very slight underestimate of the proportion of adolescents having a subculture affiliation, as boys were affiliated more frequently. The small size of this group makes it unlikely that this had any effect on further findings.

Implications

Our study shows that subculture affiliation is strongly associated with adolescents' substance use. Whether substance use as presented in our study will develop into a more harmful and problematic substance use pattern in later adolescence requires additional longitudinal research. On the other hand, the majority of adolescents with a subculture affiliation do not behave riskily. The factors that protect them, e.g. parental control or substance abstinence of parents, may be of interest for future research. Moreover, interventions targeting adolescent substance use could be framed in these subcultures as well, to reach adolescents with a subculture affiliation more effectively.

Conclusion

Youth subcultures remain very popular among adolescents, with almost one-half of all adolescents with a subculture affiliation. Subculture affiliation appears to be an important risk factor with regard to adolescents' substance use. Only a part of this risk runs via gender, family affluence and peer substance use. Adolescents with a subculture affiliation use substances more frequently. Prevention programmes should target youth subcultures by highlighting and promoting healthy lifestyle and socially accepted leisure-time activities popular for adolescents within a particular subculture.

.

Chapter 4

Protective factors of substance use in youth subcultures

Daniela Bobakova, Andrea Madarasova Geckova, Daniel Klein, Sijmen A. Reijneveld, Jitse P. van Dijk

Published: Addictive Behaviors, 2012, 37 (9): 1063-7.

Abstract

Youth subcultures, characterized by a distinctive lifestyle, music preference, shared values and behaviors, are associated with substance use. The aim of this study was to explore whether protective factors such as parental monitoring, parental bonding and parental substance abstinence affect the association between subculture affiliation and adolescents' substance use. We used data from 15-year-old elementary school pupils (N=1,380; mean age=15.47; response 79.5%) who participated in the Health Behaviour in School aged Children 2009/2010 study. The association between subculture affiliation and substance use (smoking, drinking alcohol, drunkenness, and cannabis use) was adjusted for parental monitoring, parental bonding and parental substance abstinence for boys and girls separately using logistic regression. Adolescents affiliated to one of the selected youth subcultures were significantly more likely to use substances than other 15-years-olds, except for cannabis use in girls. Adjustment for parental monitoring reduced the association between subculture affiliation and substance use by 31-64% in girls and by 10-23% in boys. Adjustment for parental bonding and parental substance abstinence led to no changes or minor changes. After adjustments for protective factors, subculture affiliation remained significantly associated with substance use. The role of protective factors in adolescents with a subculture affiliation regarding substance use is rather limited. Our findings imply that preventive strategies targeting youth subcultures should take protective factors into account and be gender-specific.

Keywords: *adolescent, subculture, substance abuse, parenting, gender*

Introduction

Youth subcultures, characterized by a distinctive lifestyle, music preference and shared values and behaviors (Nicholas, 2009), are strongly associated with substance use (Bobakova et al., 2012). Punk, Skinheads, Techno-scene, Metal and especially Hip-hop were found to be very popular among Slovak adolescents. Almost one-half of 15-year-olds is affiliated with one of these distinct youth subcultures, and such affiliation has been shown to be strongly associated with smoking, drinking, drunkenness and cannabis use (Bobakova et al., 2012).

Affiliation with these very popular youth subcultures has been shown to be a risk factor, but other factors may protect the youths concerned, making it very important that these factors be identified. Family factors were found to be strong mediators of adolescents' substance use (Raboteg-Saric, Rijavec, & Brajsa-Zganec, 2001; Wang et al., 2011; Wills & Yaeger, 2003) . One factor is parents' awareness of an adolescent's activities and whereabouts, i.e. parental monitoring (Smetana & Daddis, 2002). This has been shown to be highly protective against adolescents' substance use in many previous studies (Barnes et al., 2006; Raboteg-Saric, Rijavec, & Brajsa-Zganec, 2001; Wang et al., 2011; Wills & Yaeger, 2003). Second, bonding between adolescents and their parents has also been shown to be related to lower substance use among adolescents (Wang et al., 2011; Wills & Yaeger, 2003). Third, parents' substance abstinence provides social modeling that may be protective regarding substance use. Evidence shows that adolescents whose parents do not use substances are indeed less likely to use substances themselves (Grayson, 2011; Walden, Iacono, & McGue, 2007).

The aim of this study was to explore whether protective factors such as parental monitoring, parental bonding and parental substance abstinence affect the association between subculture affiliation and adolescents' substance use.

Material and methods

Sample and procedure

We used data from the Health Behaviour in School-aged Children (HBSC) study conducted in 2010 in Slovakia. In order to create a representative sample, 134 larger and smaller schools located in rural as well as in urban areas from all regions of Slovakia. School response rate was 98.1%.

We obtained data from 8,491 adolescents from the 5th to 9th grade of elementary schools in Slovakia (response: 79.5%). Final sample comprised 1,605 adolescents (mean age=15.47, 49.7% boys) in the target age group of elementary schools in Slovakia. The study was approved by the Ethics Committee of the Medical Faculty at the P J Safarik University in Kosice. Parents were informed about the study via the schoo administration and could opt out if they disagreed with it. Participation in the study was fully voluntary and anonymous with no explicit incentives provided for participation. More detailed information on study design can be found here (Bobakova et al., 2012).

Measures

Subculture affiliation - Respondents were asked whether they would classify themselves as affiliated with one of the listed subcultures. They were asked to choose only one alternative, the one which best described their affiliation. Possible responses were: Hip-hop / Punk / Skinheads / Techno scene / Metal / Church community / Other / I would not classify myself as affiliated with any subculture. Those who classified themselves as affiliated with devianceprone subculture (Hip-hop, Punk, Skinheads, Techno scene, Metal) were categorized as "adolescents with a subculture affiliation". The rest of the sample (Church community, Other and No affiliation) was categorized as "adolescents without a subculture affiliation". Youth subcultures as presented are mostly created around the specific genre of music (Gospel, Hiphop/ Rap, Punk, Oi-Punk, Techno/House/Rave, Metal/Heavy-Metal/Rock etc.), but understood as a wider lifestyle construct.

In order to asses substance use, adolescents were asked about Smoking cigarettes (at least weekly), Drinking alcohol (at least weekly), Drunkenness (at least once in past 30 days), and Cannabis use (at least once in past 30 days). These were validated measures used worldwide within the HBSC study (Currie et al., 2008a). All variables were dichotomized (Bobakova et al., 2012; Currie et al., 2008a) Parental monitoring – Respondents were asked about their perception of what their mother and father knew about their activities and whereabouts (Brown & Mounts, 1993; Currie et al., 2008a). Using factor analysis, two factors were extracted - 5 items concerning mother and 5 concerning father were loaded into two factors separately with factor loadings varying from 0,72 to 0,785 for the first factor (mother's monitoring) and from 0,854 to 0,876 for the second one (father's monitoring). The higher adolescents scored in parental monitoring, the higher were their levels of perceived parental monitoring.

Parental bonding – Respondents were asked about emotional support from their mother and father separately (Currie et al., 2008a; Parker, Tupling, & Brown, 1979). Factor analysis was used and two factors were then extracted - 6 items concerning mother and 6 concerning father were loaded into two factors separately with factor loadings varying from 0,647 to 0,784 for the first factor (mother bonding) and from 0,833 to 0,897 for the second one (father bonding). The higher adolescents scored in parental bonding, the higher were their levels of perceived parental bonding.

Parental substance abstinence – Respondents were asked whether their parents smoke daily, drink alcohol at least once a week, get drunk at least once a month or use any drugs (yes / no).

Statistical analyses

After the description of the sample, multivariate logistic regression models were run for smoking cigarettes, drinking alcohol, drunkenness and cannabis use, controlled for each of the protective factors separately for boys and girls. Model 1 tested the crude association of subculture affiliation with substance use. Model 2 was adjusted separately for parental monitoring, parental bonding and parental substance abstinence. The degree of reduction of the Odds Ratios' (ORs') was computed using the formula: (OR[crude] – OR[adjusted]) / (OR[crude] – 1) x 100%. All data were analyzed using SPSS 16.0 for Windows.

Results

Statistically significant differences between adolescents with a subculture affiliation and other adolescents were found regarding gender, mother's and father's smoking, father's drunkenness, mother's and father's drug use, mother's and father's monitoring and mother's bonding (Table 1).

Adolescents affiliated with a subculture were significantly more likely than other adolescents to use all substances except for cannabis use in girls (Table 2). For the other substances, ORs ranged from 1.80 for drunkenness to 3.14 for smoking.

Table 1 Descriptive statistics by subculture affiliation.

	Adolescents with subculture affiliation		**Adolescents without subculture affiliation**		**Total**	**p-value ***
	N=650	(%)	N=730	(%)	N=1380	
Gender						<0.001
Boys	387	59.5	267	36.6	654	
Girls	263	40.5	463	63.5	726	
Substance use						
Smoking	173	26.7	77	10.6	250	<0.001
Drinking	183	28.7	102	14.3	285	<0.001
Drunkenness	172	26.7	112	15.4	284	<0.001
Cannabis use	54	8.4	24	3.3	78	<0.001
Substance abstinence	N=650	(%)	N=730	(%)	N=1380	
Not smoking						
Mother	464	75.0	579	80.5	1043	<0.05
Father	375	61.9	510	72.3	885	<0.001
Not drinking						
Mother	518	81.1	582	83.1	1100	ns
Father	312	51.1	374	53.0	686	ns
Not getting drunk						
Mother	585	94.7	695	96.7	1280	ns
Father	443	73.8	563	79.7	1006	<0.05
No drug use						
Mother	615	99.0	717	100.0	1332	<0.01
Father	598	98.7	703	99.7	1301	<0.05
Parenting	Mean score (SD)		Mean score (SD)		N	
Monitoring						
Mother	17.47 (2.69)		18.32 (2.08)		1343	<0.001
Father	15.61 (4.00)		16.06 (3.76)		1343	<0.05
Bonding						
Mother	21.24 (2.86)		21.57 (2.37)		1337	<0.05
Father	19.53 (4.68)		19.82 (4.21)		1329	ns

Table 2 Substance use (smoking, drinking, drunkenness and cannabis use) in youth subcultures by gender, crude and with adjustment for potentially protective factors: odds ratios (OR) and 95% confidence intervals (CI).

	Smoking	**Drinking**	**Drunkenness**	**Cannabis use**
BOYS	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Parental monitoring	N=617	N=606	N=616	N=613
Model 1 - Crude				
Subculture affiliation	2.97 (1.88-4.68)***	2.19 (1.49-3.22)***	1.80 (1.21-2.68)**	2.67 (1.38-5.19)**
Model 2				
Subculture affiliation	2.77 (1.74-4.42)***	1.99 (1.34-2.96)**	1.63 (1.09-2.45)*	2.29 (1.17-4.51)*
Monitoring - mother	0.68 (0.57-0.82)***	0.62 (0.51-0.74)***	0.65 (0.54-0.78)***	0.60 (0.47-0.75)***
Monitoring - father	0.75(0.62-0.92)**	0.85 (0.70-1.03)	0.85 (0.70-1.04)	0.85 (0.64-1.13)
Parental bonding	N=610	N=600	N=610	N=608
Model 1 - Crude				
Subculture affiliation	3.14 (1.99-4.95)***	2.18 (1.48-3.21)***	1.98 (1.32-2.96)***	2.43 (1.27-4.63)**
Model 2				
Subculture affiliation	3.09 (1.95-4.90)***	2.14 (1.45-3.16)***	1.91 (1.27-2.87)**	2.29 (1.19-4.38)*
Bonding - mother	0.84 (0.70-1.01)	0.89 (0.75-1.05)	0.95 (0.88-1.02)	0.75 (0.60-0.93)**
Bonding - father	0.75 (0.63-0.90)**	0.91 (0.76-1.08)	0.76 (0.64-0.90)**	0.89 (0.69-1.15)
Parental substance use	N=612	N=604	N=609	N=608
Model 1 - Crude				
Subculture affiliation	2.99 (1.89-4.72)***	2.20 (1.50-3.23)***	1.86 (1.26-2.76)**	2.38 (1.25-4.55)**
Model 2				
Subculture affiliation	2.86 (1.79-4.57)***	2.19 (1.49-3.21)***	1.75 (1.17-2.61)**	2.29 (1.19-4.40)*
Substance abstinence - mother	0.47 (0.29-0.74)**	1.19 (0.70-2.03)	0.27 (0.12-0.62)**	2.72 (0.10-70.86)
Substance abstinence - father	0.50 (0.33-0.77)**	0.89 (0.60-1.33)	0.57 (0.37-0.89)	0.10 (0.01-1.41)

Table 2 (continued)

GIRLS	Smoking OR (95% CI)	Drinking OR (95% CI)	Drunkenness OR (95% CI)	Cannabis use OR (95% CI)
Parental monitoring	N=707	N=696	N=707	N=704
Model 1 - Crude				
Subculture affiliation	2.88 (1.91-4.34)***	2.17 (1.43-3.29)***	1.96 (1.33-2.89)***	1.83 (0.78 -4.28)
Model 2				
Subculture affiliation	2.30 (1.49-3.54)***	1.75 (1.14-2.71)*	1.62 (1.08-2.43)*	1.31 (0.54-3.17)
Monitoring - mother	0.67 (0.47-0.69)***	0.59 (0.49-0.72)***	0.63 (0.52-0.76)***	0.63 (0.46-0.87)**
Monitoring - father	0.61 (0.50-0.75)***	0.81 (0.66-0.99)*	0.82 (0.67-0.99)*	0.54 (0.38-0.78)***
Parental bonding	N=690	N=681	N=690	N=679
Model 1 - Crude				
Subculture affiliation	2.62 (1.73-3.96)***	2.18 (1.43-3.32)***	1.97 (1.33-2.91)***	1.65 (0.69-3.93)
Model 2				
Subculture affiliation	2.45 (1.61-3.74)***	2.06 (1.35-3.15)***	1.87 (1.26-2.78)**	1.57 (0.65-3.78)
Bonding - mother	0.75 (0.62-0.91)**	0.80 (0.66-0.97)*	0.77 (0.64-0.93)**	0.99 (0.65-1.51)
Bonding - father	0.72 (0.60-0.87)***	0.82 (0.68-1.00)*	0.86 (0.71-1.04)	0.73 (0.51-1.02)
Parental substance use	N=690	N=682	N=690	N=688
Model 1 - Crude				
Subculture affiliation	2.70 (1.78-4.11)***	2.04 (1.34-3.11)***	1.92 (1.29-2.85)**	1.86 (0.76-4.52)
Model 2				
Subculture affiliation	2.44 (1.59-3.74)***	2.09 (1.36-3.19)***	1.85 (1.23-2.77)**	1.87 (0.77-4.56)
Substance abstinence - mother	0.37 (0.24-0.59)***	0.67 (0.40-1.14)	0.33 (0.14-0.76)**	----------
Substance abstinence - father	0.70 (0.45-1.09)	0.61 (0.38-0.98)*	0.49 (0.32-0.76)**	----------

Adjustment for parental monitoring reduced the association between subculture affiliation and substance use by 31-63% in girls and by 10-23% in boys. Adjustment for parental bonding and parental substance abstinence caused no or minor changes in ORs (no more than 12%).

Discussion

Parental monitoring was the protective factor that most affected the association and did so noticeably more in girls than in boys. We also found gender differences regarding parental bonding and parental substance abstinence which seemed to be protective too, but not as much as parental monitoring. After adjustments for each protective factor, subculture affiliation remained strongly and significantly associated with substance use. Adolescents with a subculture affiliation seem to be monitored less frequently in particular by their mothers than other adolescents, a fact which explains part of the difference in substance use between them. The association of parental monitoring with less substance use has been shown previously (Barnes et al., 2006; Raboteg-Saric, Rijavec, & Brajsa-Zganec, 2001; Wills & Yaeger, 2003). Adjustment for parental monitoring decreased the association between subculture affiliation and adolescents' substance use more distinctly in girls than in boys. This difference cannot be attributed to the traditionally higher levels of parental monitoring regarding girls than regarding boys (Barnes et al., 2006; Grayson, 2011), as such a difference was not found in our sample. Instead, parental monitoring seems to have a stronger mediating effect in girls than in boys with regard to substance use in youth subcultures.

Parental bonding hardly affected the association between subculture affiliation and substance use, although it is considered to be a protective factor that reduces substance use in adolescents (Wang et al., 2011; Wills & Yaeger, 2003). Adolescents who perceive a supportive relationship with their parents (e.g. parental bonding) could be more willing to accept rules or behavioural regulation and disclose relevant information (Keijsers et al., 2009; Tomcikova Z, 2011). This may in turn decrease the likelihood of substance use. But our findings suggest that the mediating protective effect of parental bonding with regard to substance use in youth subcultures seems to be rather limited.

Substance abstinence of either parent hardly affected the association between subculture affiliation and substance use. We found only a slight effect of parental abstinence on drunkenness in boys and smoking in girls in youth subcultures. According to Grayson (2011), adolescents perceiving a supportive relationship with their parents (e.g. parental bonding) could be more likely to model their health behavior. In the case of youth subcultures, simply having a parent who provides a model of substance abstinence and with whom the adolescent has a close bond may not protect him/her from substance use (Grayson, 2011).

Our results suggest that part of the additional risk of substance use in youth subcultures is due to a lack of protective factors, particularly parental monitoring. It could be a consequence of parents' difficulties with monitoring or supervising more problematic adolescents effectively, or that parents who are unable to effectively monitor their children may have other related problems or characteristics (genetic, environmental, or both) as well (Jacobson & Crockett, 2000). The latter might include parental substance use. Furthermore, the lack of protective factors might be an expression of rebellion against parents and against conforming with the society, which is typical for adolescence (Nurmi, 2004) and is embodied in youth subcultures and also manifests itself as substance use (McCulloch, Stewart, & Lovegreen, 2006). Another explanation could be that the lack of protective factors leads to substance use, and these shared substance use patterns gather adolescents in youth subcultures via peer selection. Whether strengthening parental skills would reduce substance use in youth subcultures deserves further study. Due to the cross-sectional design of our

study we cannot further explore these relationships and their nature and direction of the pathway.

Strengths and limitations

The strength of our study is that it comprises relevant data from a representative sample of adolescents. A limitation might be that we were missing data on subculture affiliation from 225 respondents. However, no differences or merely trivial differences regarding the use of various substances were found between those 225 adolescents and the remainder of the sample. As more boys than girls did not answer this question, a medium difference was found regarding gender (Cohen's w = 0.37). This difference could have caused a very slight underestimate of the proportion of adolescents having a subculture affiliation, as boys were affiliated more frequently. However, the small size of this group makes it unlikely that this had any effect on further findings. Findings regarding cannabis users should be interpreted with caution due to small number of cannabis users in our sample.

Implications

Our findings imply that youth subculture affiliation is associated with a lack of protective factors, and that the role of these common protective factors regarding substance use seems to be rather limited in youth subcultures. Parental monitoring seems to be the protective factor which most effectively decreases substance use in youth subcultures. Preventive strategies could be targeted toward adolescents with a subculture affiliation and their parents and aimed at strengthening an adolescent's resiliency in a high-risk environment and at improving parenting skills, particularly regarding parental monitoring. Policy makers and education/health/welfare practitioners should be more concerned about these patterns of substance use in young people. The factors that protect adolescents against the use of substances despite their subculture affiliation highly deserve further study. This also concerns the causal pathway in which they act regarding substance use in youth subcultures; a topic that could best be studied using a longitudinal design.

Conclusion

The role of protective factors in youth subcultures regarding substance use seems to be rather limited. Our findings imply that preventive strategies targeting youth subcultures should take protective factors into account and should be gender-specific.

Chapter 5

Fighting, truancy and low academic achievement in youth subcultures

Daniela Bobakova, Andrea Madarasova Geckova, Daniel Klein, Jitse P. van Dijk, Sijmen A. Reijneveld

Submitted

Abstract

Lifestyle, music preference, shared values and behaviours of young people can be understood to be components of youth subcultures. Little is known about the association between affiliation with non-mainstream subcultures and problem behaviour. The aim of this study was to assess the association between subculture affiliation and fighting, truancy and low academic achievement, and to determine whether a lack of parental monitoring and parental bonding account for these associations. Data on 15-year-old elementary school pupils (N=1605; mean age=15.47; 49.7% boys) who participated in the Health Behaviour in School-aged Children 2009/2010 study were used to assess the association of subculture affiliation with fighting, truancy and academic achievement using logistic regression and to determine whether gender, family affluence and parental monitoring and bonding account for such an association. Adolescents with a subculture affiliation were significantly more likely than other adolescents to fight, skip school and achieve lower at school compared with other adolescents when controlling for gender and family affluence. A part of this association is accounted for by a lack of parental bonding and parental monitoring. Our findings imply that preventive strategies should target adolescents with subculture affiliations, as they are more prone to accumulate problem behaviours.

Keywords: *adolescence, youth subcultures, fighting, truancy, low academic achievement, parental monitoring, parental bonding*

Introduction

Youth subcultures are complex value orientations (esthetical, political), symbols, patterns of behaviour and lifestyles of groups of young people formed within a dominant culture (Latysheva, 2011; Nicholas, 2009). Music preference as the core component of youth subcultures (Hodkinson & Deicke, 2007) also plays an important role in, for example, peer-group formation (Bakagiannis & Tarrant, 2006; Selfhout et al., 2009), adolescents' identity-finding, self-perception, shared values and conflicts (Baker & Bor, 2008; Schwartz, 2004). Affiliation with youth subcultures seems to be associated with problem behaviours (Dowd & Dowd, 2003; Selfhout et al., 2008; Singer et al., 1993; van der Rijt et al., 2002; Verkooijen et al., 2007). Subcultures such as Punk (3.7%), Skinheads (0.8%), Techno-scene (9.9%), Metal (6.7%) and especially Hip-hop (26.0%) were found to be quite popular among Slovak adolescents and strongly associated with substance use (Bobakova et al., 2012). Substance use is commonly associated with other problem behaviours, such as fighting, truancy and low academic achievement (Fleming et al., 2010; Fraga et al., 2011; Henry, 2010; Reid, 2010; Swahn et al., 2009), and the accumulation of these factors seems to be rather hazardous regarding successful adulthood and health-related outcomes (Haller et al., 2010; Childs et al., 2011; Jessor, 1991). Family factors, such as parental knowledge and parental bonding, were found to be protective factors with regard to adolescents' fighting, truancy and academic achievement (Connel et al., 2011; Henry, 2007; Kristjansson & Sigfusdottir, 2009; Solomon et al., 2008; Springer et al., 2006).

More is known about the association between music preference and problem behaviours than is known about youth subculture affiliation and such associations. Previous studies have associated musical genres such as Hip-hop/Rap, Punk/Hardcore and Rock with substance use, fighting, stealing, having unprotected sexual intercourse, etc. (Miranda & Claes, 2004; Mulder et al., 2007; Mulder et al., 2009; Schwartz, 2004; Tanner et al., 2009). Only one recent study examined the association between music preference and academic achievement (Bannon, 2006) but did not find them to be associated. Moreover, nothing is known about the association between music preference and truancy.

Different types of problem behaviour are highly correlated; they predict and are predicted by each other and have many of the same risk and protective factors (Flay, 2002). Norm-breaking behaviour which creates one separate cluster comprising, for example, physical aggression or delinquency (van Nieuwenhuijzen et al., 2009) might thus also comprise fighting, truancy and/or low academic achievement.

Adolescents feel the need to be accepted and respected and yet also to become individuals (Erickson, 1980). During this process both parents and peers are influential, but their influence varies depending on which aspects of life are considered (study habits, academic activities, substance use, sexual socialisation) (Wang et al., 2009). The influence of parents is generally decreasing and the influence of peers and peer groups is increasing (De Goede et al., 2009). In peer groups it is not only adolescents' positive self-evaluation through social comparison which can be formed (Tarrant, 2002); while longing for acceptance among a group of friends, adolescents can also assume norms and behaviour patterns which are often manifested as problem behaviour (Nurmi, 2004; Tarrant et al., 2006). Therefore, parenting which concerns not only authority and control with clear parent-child boundaries but also considerable empathy with children's emotional states and ways of thinking is important (Maccoby, 1992). Parental knowledge and parental bonding were found to be strong mediators

of adolescents' problem behaviours (Barnes et al., 2006; Raboteg-Saric, Rijavec, & Brajsa-Zganec, 2001; Wang et al., 2011; Wills & Yaeger, 2003).

There is a lack of studies which relate problem behaviours directly to subculture affiliation rather than only to musical preferences related to subcultures. Only in regard to fighting does some evidence exist showing such behaviours to occur more likely among youth affiliated with non-mainstream subcultures (Selfhout et al., 2008; Simi et al., 2008). Moreover, the evidence is scarce in regard to academic achievement and truancy. Thus, the aim of this study was to assess the association between subculture affiliation and fighting, truancy and low academic achievement, and to determine whether a lack of parental knowledge and parental bonding account for these associations. As was previously shown, given the association between youth subculture affiliation and substance use, which is commonly associated with other problem behaviour, we hypothesise that adolescents with a subculture affiliation will be more likely to fight, skip school and achieve lower at school compared with other adolescents. We also expect parental knowledge and parental bonding to mediate the effect of subculture affiliation on the problem behaviour examined, as these are commonly protective factors.

Methods

Sample and data collection

We used data from the Health Behaviour in School-aged Children (HBSC) study conducted in Slovakia in 2010. In order to create a representative sample, 134 larger and smaller schools located in rural as well as in urban areas from all regions of Slovakia were randomly chosen from a list of schools obtained from the Slovak Institute of Information and Prognosis for Education. We contacted 108 schools, and 106 of them took part in our survey, representing a 98.1% school response rate. Classes from the 5th to 9th grades were selected randomly, one from each grade per school.

We obtained data from 8,491 adolescents from the 5th to 9th grades of elementary schools in Slovakia (response: 79.5%). Non-response was primarily due to illness (10.3%) and parental disapproval of their children's participation (7.4%). Only the 15-year-old adolescents from the 8th and 9th grades were asked questions about subcultures and cannabis use. There were 4,321 students registered in the 8th and 9th grades, mostly 13-16 years old, and 3,676 students actually filled in the questionnaire (response: 85.1%). This represents a final sample of 1,605 15-year-old adolescents (mean age=15.47, 49.7% boys) in the target age group of elementary schools in Slovakia. Due to missing responses on the question about youth subcultures, 225 respondents were excluded. Analyses were thus performed on a total sample of 1,380 adolescents.

The study was approved by the Ethics Committee of the Medical Faculty at P J Safarik University in Kosice. Parents were informed about the study via the school administration and could opt out if they disagreed with it. Participation in the study was fully voluntary and anonymous, with no explicit incentives provided for participation. In order to provide standard conditions requested by the study protocol all questionnaires were administered by trained research assistants in the absence of a teacher during regular class time. This was done with the intention of minimising

undesirable interference by external influences and social desirability when answering questions on sensitive topics.

Measures

Subculture affiliation – Respondents were asked whether they would classify themselves as being affiliated with one of the listed subcultures. They were asked to choose only one alternative – the one which best described their affiliation. Possible responses were: Hip-hop / Punk / Skinheads / Techno-scene / Metal / Church community / Other / I would not classify myself as affiliated with any subculture. Those who classified themselves as affiliated with a specific subculture (Hip-hop, Punk, Skinheads, Techno-scene, Metal) were categorised as "adolescents with a subculture affiliation". The rest of the sample (Church community, Other and No affiliation) was categorised as "adolescents without a subculture affiliation". Youth subcultures as presented are mostly created around a specific genre of music (Gospel, Hip-hop/Rap, Punk, Oi-Punk, Techno/House/Rave, Metal/Heavy-Metal/Rock etc.) but understood as a wider lifestyle construct. These subcultures are the most common in Slovakia (Bobakova et al., 2012).

Fighting – Respondents were asked how many times they had been in a physical fight during the past 12 months, with possible responses: I have not been in a physical fight in the past 12 months / 1 time / 2 times / 3 times / 4 or more times (Brener et al., 1995, Currie et al., 2008a). Those who reported being in a physical fight at least 3 times were categorised as "frequent fighters".

Truancy – Respondents were asked how many times they had stay away from school for at least a whole day without a legitimate excuse in the last 12 months, with possible responses: Never / One or two times / 3 times or more (Zhang et al., 2000). Those who reported skipping school at least 3 times were categorised as "truants".

Academic achievement – Respondents were asked about their perception of how teachers evaluate their academic performance compared with that of their classmates, with possible responses: Very well / Well / Average / Below average (Currie et al., 2008a). Those who reported average and lower academic achievement were categorised as "academically less successful".

Parental knowledge – Respondents were asked about their perception of what their mother and father knew about their activities and whereabouts (Brown & Mounts, 1993; Currie et al., 2008a). Each of the five items (How much does your mother/father really know about 1) Who your friends are, 2) How you spend your money, 3) Where you are after school, 4) Where you go at night, 5) What you do with your free time) contained four answer options (She/he knows a lot / knows a little / Doesn't know anything / Don't have or don't see mother/father). Factor analysis was used to create two latent variables: mother's and father's knowledge. Two factors were extracted – 5 items concerning the mother and 5 concerning the father were loaded into two factors separately with factor loadings varying from 0.72 to 0.785 for the first factor (mother's knowledge) and from 0.854 to 0.876 for the second one (father's knowledge). These items showed satisfying consistency (Cronbach's $\alpha = 0.83$ for the mother; Cronbach's $\alpha = 0.93$ for the father). The higher adolescents scored in parental knowledge, the higher were their levels of perceived parental knowledge. Separate factor scores for the mother and the father were used in the analyses.

Parental bonding – Respondents were asked about emotional support and promotion of autonomy from their mother and father separately (Currie et al., 2008a;

Parker et al., 1979). Each of the eight items (My mother/father 1) Helps me as much as I need, 2) Lets me do the things I like doing, 3) Is loving, 4) Understands my problems and worries, 5) Likes me to make my own decisions, 6) Tries to control everything I do, 7) Treats me like a baby, 8) Makes me feel better when I am upset) contained four answer options (Almost always / Sometimes / Never / Don't have or see this person). Factor analysis was used to create two latent variables: mother's and father's bonding. From the initial 16 items, 4 were excluded from the scale (2 concerning father and 2 concerning mother). This increased the explained variation; thus, these 2 factors were extracted, leaving 6 items concerning mother and 6 concerning father. These were then loaded into the two factors separately, with factor loadings varying from 0.647 to 0.784 for the first factor (mother bonding) and from 0.833 to 0.897 for the second one (father bonding). These items showed satisfying consistency (Cronbach's $\alpha = 0.83$ for the mother; Cronbach's $\alpha = 0.94$ for the father). The higher adolescents scored in parental bonding, the higher were their levels of perceived parental bonding. Separate factor scores for the mother and the father were used in the analyses.

Family affluence – was measured using the Family Affluence Scale II (FAS II) (Currie et al. 2008a, 2008b), which consists of four questions: How many computers does your family own (None / One / Two / More than two)? Does your family own a car, van or truck (No / Yes, one / Yes, two or more)? Do you have your own bedroom for yourself (No / Yes)? During the past 12 months, how many times did you travel away on holiday with your family (Not at all / Once / Twice / More than twice)? The sum score was computed, and a three-point ordinal scale was used in the analysis: Low affluence (score = 0–3), Middle affluence (score = 4–6) and High affluence (score = 7–9).

Statistical analyses

We first described the background characteristics of the sample and tested correlations between fighting, truancy and academic achievement. Next, we performed multivariate logistic regression analyses regarding the association of subculture affiliation with fighting, truancy and academic achievement (Model 1). Then, we adjusted for gender and FAS (Model 2). Finally, we additionally adjusted for parental knowledge and parental bonding (Model 3). We also assessed whether parental knowledge and parental bonding were modified by subculture affiliation. All data were analysed using SPSS 16.0 for Windows.

Results

Boys reported subculture affiliation significantly more often than girls. Adolescents with a subculture affiliation reported fighting, skipping school and low academic achievement significantly more often than other adolescents (Table 1). We also found that adolescents with a subculture affiliation received significantly less parental knowledge and maternal bonding compared with others (Table 1). We found weak (although statistically significant) correlations between fighting, truancy and academic achievement (Table 2). The degree of reduction of the Odds Ratios (ORs) was computed using the formula: (OR[crude] – OR[adjusted]) / (OR[crude] – 1) x 100%.

Table 1 Descriptive statistics by subculture affiliation.

	Adolescents with a subculture affiliation		Adolescents without a subculture affiliation		Total	p-value *
	N=650	(%)	N=730	(%)	N=1380	
Gender						<0.001
Boys	387	59.5	267	36.6	654	
Girls	263	40.5	463	63.4	726	
Family affluence						ns
Low	163	26.7	192	27.4	355	
Medium	332	54.4	357	50.9	689	
High	116	19.0	153	21.8	269	
Problem behaviour						
Fighting	97	15.1	55	7.6	152	<0.001
Truancy	50	6.8	67	10.4	117	<0.05
Academic achievement	262	40.6	112	25.5	447	<0.001
Parenting	Mean (SD)		Mean (SD)		N	
Monitoring						
Mother	17.47 (2.69)		18.32 (2.08)		1343	<0.001
Father	15.61 (4.00)		16.06 (3.76)		1343	<0.05
Bonding						
Mother	21.24 (2.86)		21.57 (2.37)		1337	<0.05
Father	19.53 (4.68)		19.82 (4.21)		1329	ns

Table 2 Mutual correlation coefficient between fighting, truancy and academic achievement.

	Fighting	Truancy	Academic achievement
Fighting	1		
Truancy	0.22***	1	
Academic achievement	0.23***	0.19***	1

Table 3 Associations of subculture affiliation with fighting, truancy and low academic achievement: odds ratios (OR) and 95% confidence intervals (CI).

	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)
Fighting N=1213			
Subculture affiliation			
No	1 (reference)	1 (reference)	1 (reference)
Yes	2.12 (1.46-3.09)***	1.64 (1.11-2.41)*	1.50 (1.01-2.22)*
Gender			
Girls		1 (reference)	1 (reference)
Boys		3.69 (2.41-5.64)***	3.44(2.23-5.31)***
Family affluence			
High		1 (reference)	1 (reference)
Middle		1.21 (0.74-1.98)	1.29 (0.79-2.12)
Low		0.85 (0.48-1.53)	0.92 (0.50-1.67)
Parenting			
Father monitoring			0.81 (0.59-1.11)
Mother monitoring			0.66 (0.54-0.81)***
Father bonding			1.16 (0.86-1.56)
Mother bonding			1.30 (1.04-1.62)*
Truancy N=1221			
Subculture affiliation			
No	1 (reference)	1 (reference)	1 (reference)
Yes	1.47 (0.98-2.22)	1.56 (1.02-2.38)*	1.26 (0.82-1.96)
Gender			
Girls		1 (reference)	1 (reference)
Boys		0.89 (0.58-1.36)	0.84(0.54-1.31)
Family affluence			
High		1 (reference)**	1 (reference)*
Middle		1.48 (0.29-0.77)**	0.47 (0.29-0.78)**
Low		0.57 (0.33-0.99)*	0.56 (0.32-1.00)*
Parenting			
Father monitoring			0.51 (0.37-0.71)***
Mother monitoring			0.61 (0.49-0.75)***
Father bonding			1.51 (1.10-2.08)*
Mother bonding			1.11 (0.89-1.39)

Table 3 (continued)

	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)
Academic achievement N=1217			
Subculture affiliation			
No	1 (reference)	1 (reference)	1 (reference)
Yes	1.98 (1.55-2.53)***	1.65 (1.28-2.14)***	1.47 (1.13-1.91)**
Gender			
Girls		1 (reference)	1 (reference)
Boys		2.36 (1.82-3.05)***	2.32 (1.78-3.03)***
Family affluence			
High		1 (reference)**	1 (reference)*
Middle		1.57 (1.11-2.22)*	1.55 (1.09-2.22)*
Low		1.87 (1.28-2.75)**	1.74 (1.17-2.60)**
Parenting			
Father monitoring			0.88 (0.71-1.09)
Mother monitoring			0.71 (0.61-0.82)***
Father bonding			0.91 (0.73-1.12)
Mother bonding			0.90 (0.78-1.05).

** p < 0.05, ** p < 0.01, *** p < 0.001*

Adolescents with a subculture affiliation were significantly more likely than other adolescents to fight, skip school and achieve lower at school (Table 3, Model 1). Adding gender and family affluence to the model substantially accounted for these associations. It weakened the association of subculture affiliation with fighting by 42.9% and with low academic achievement by 33.7% (Table 3, model 2). This adjustment also strengthened the association of subculture affiliation with truancy by 22.2% (Table 3, Model 2). Adding parental bonding and particularly parental knowledge further weakened all associations, by another 21.9% in regard to fighting, 32.5% in regard to truancy and 27.7% in regard to low academic achievement (Table 3, Model 3). A part of the association between fighting, truancy and lower academic achievement and youth subcultures is accounted for by a lack of parental bonding and parental knowledge.

We also assessed whether parental knowledge and parental bonding were modified by subculture affiliation, and this did not show any statistically significant interaction effect (not shown).

Discussion

The aim of this study was to assess the association between subculture affiliation and fighting, truancy and low academic achievement, and to determine whether a lack of

parental knowledge and parental bonding account for these associations. Adolescents with a subculture affiliation are more likely to fight, skip school and achieve lower at school compared with other adolescents when controlling for gender and family affluence. Parental bonding and particularly parental knowledge significantly accounted for fighting, truancy and low academic achievement in adolescents with a subculture affiliation. Nevertheless, part of the association between subculture affiliation and fighting or low academic achievement remained unexplained. Thus, youth subculture affiliation seems to be a strong risk indicator regarding fighting, truancy and low academic achievement, which cannot be fully accounted for by a lack of protective factors.

Fighting was found to be significantly associated with subculture affiliation even when controlling for gender, family affluence and a lack of protective factors. Boys seem to be fighters more frequently than girls and to have a subculture affiliation more often than girls. In youth subcultures such behaviour might be considered as a symbol of masculinity and predominance, but it occurs among girls as well. Girls are even more prone to psychological distress when experiencing such behaviour (Landstedt & Gadin, 2011). Adjustment for parental knowledge caused a modest decrease in the association between subculture affiliation and frequent fighting. Interestingly, adjustment for maternal bonding increased the likelihood of fighting among adolescents affiliated with subcultures, even though the average level of bonding did not vary by affiliation status. According to Farrell et al. (2011) the protective effect of parental bonding regarding fighting depends on the nature of the messages parents convey, whether they support nonviolent solutions rather than fighting. Further research is needed on whether the type of bonding indeed varies by subculture affiliation.

Truancy was found to be significantly associated with subculture affiliation when controlling for gender and family affluence, but this association was fully accounted for by the lack of parental knowledge. Even if affiliation with youth subcultures is disregarded, boys and those with low socioeconomic status are more likely to skip school (Veenstra et al., 2010), which holds for our sample too. But girls affiliated with youth subcultures seem to be more likely to skip school, and family affluence does not seem to play a role in such cases. Parental knowledge seems to be an effective protective factor regarding truancy in youth subcultures, unlike parental bonding, which does not seem to play an important role here.

Subculture affiliation appears to be an important risk factor also with regard to lower academic achievement, which can be further related to the above-mentioned truancy and other undesirable outcomes (Henry, 2010). Our findings that boys and those with lower family affluence are more likely to achieve lower at school are in line with previous studies (Currie et al., 2008aa; Jaeger, 2011). Parental knowledge partially accounted for the association between subculture affiliation and lower academic achievement, but this association remained statistically significant. Parental bonding also does not seem to be important in regard to low academic achievement in youth subcultures, although previously it was found to be influential (Wondimu et al., 2010; Rothon et al., 2012).

Our results suggest that part of the association between fighting, truancy and lower academic achievement and youth subcultures is accounted for by a lack of protective factors. Regarding youth subcultures, parental knowledge seems to be of higher importance than parental bonding. The relationship with parents affects attitudes towards school and norms, which then affect involvement in

various offending behaviours (Estevez & Emler, 2010). Parental bonding is related to adolescents' openness in communication and willingness to conform to parental rules (Keijsers et al., 2009; Tomcikova, 2011). More troubled adolescents, such as those affiliated with youth subcultures, might be more difficult to monitor or supervise effectively (Jacobson & Crockett, 2000), which may consequently lead to an accumulation of problem behaviours. On the other hand, a lack of parental knowledge could lead to exaggerated expression of rebellion against conformity to parental or social rules (Nurmi, 2004) embodied in youth subcultures and also manifested as problem behaviours (McCulloch et al., 2006). The accumulation of problem behaviours in youth subcultures could also be explained in a different way: these subcultures might just be another expression of the desire to be deviant, i.e., an extreme form of rebellion against conformity.

Strengths and limitations

The strength of our study is that it contains relevant data from a large and representative sample of adolescents. It maps an important part of the spectrum of correlated problem behaviours in an important age period, when such behaviours might have a crucial impact on the successful future of adolescents regarding academic and personal performance. Moreover, our study takes into account the most important protective factors regarding the examined behaviours.

A limitation of this study could be that we were missing data on subculture affiliation from 225 respondents. However, no differences, or merely trivial (although significant) differences, were found regarding fighting, truancy and low academic achievement between those 225 adolescents and the remainder of the sample. As more boys than girls did not answer this question, a small difference was found regarding gender (Cohen's w = 0.37). This could have caused a slight underestimate of the proportion of adolescents with a subculture affiliation, as boys were affiliated more frequently. However, the small size of this group makes it unlikely that this had any effect on further findings. Another limitation might be the cross-sectional design of our study, which did not allow us to explore causal pathways. A limitation of our study could also be that we used self-reported data. However, self-reporting of problem behaviour has been previously shown to offer satisfying reliability (Del Boca & Noll, 2000). Moreover, our findings regarding substance use are comparable to a previous HBSC study (Currie et al., 2008a), so we do not expect this to be a source of bias.

Implications

Despite some limitations, our findings imply that the risk of fighting, truancy and low academic achievement is higher in adolescents affiliated with youth subcultures. Stimulating parents' knowledge of the risks related to subculture affiliation and their parenting skills, particularly in regard to knowledge, could be a sound strategy to help prevent such behaviours in adolescents affiliated with youth subcultures. As the effect of protective factors seems to be most limited in regard to fighting, it is also important to strengthen adolescent's self-control and their ability to refrain from aggressive behaviour in a high-risk environment. Thus, prevention strategies could be targeted at adolescents with subculture affiliations and their parents, as these adolescents seem to be more prone to accumulate problem behaviours. Our results also suggest that

fighting and academic achievement seem to be more severe problems in boys, who are also more often affiliated to youth subcultures. This supports a gender-specific approach in prevention.

Furthermore, it may be important to explore which protective factors operate in adolescents who do not behave riskily despite their having a subculture affiliation. In general, the causal pathways of risk and protective factors regarding problem behaviours in youth subcultures require further study, preferably in longitudinal designs, to disentangle causality.

Conclusion

Youth subculture affiliation is a strong risk factor regarding fighting, truancy and low academic achievement. A part of this risk is accounted for by a lack of protective factors. The protective role of parental bonding and particularly parental knowledge regarding fighting, truancy and low academic achievement in adolescents with a subculture affiliation seems to be of high importance, as these behaviours seem to be not only mutually correlated but also associated with other problem behaviours such as substance use. Our findings thus imply that preventive strategies should target adolescents with a subculture affiliation, as they are more prone to accumulate these problem behaviours.

Chapter 6

Protective and risk factors of early sexual initiation in youth subcultures

Daniela Bobakova, Andrea Madarasova Geckova, Daniel Klein, Jitse P. van Dijk, Sijmen A. Reijneveld

Submitted

Abstract

Objectives: To assess the association between subculture affiliation (Hip-hop, Techno-scene, Metal, Punk, Skinheads) and early sexual initiation, and whether gender, family affluence, peer influence, lack of parental bonding and lack of parental monitoring explain this association.
Methods: We collected data on 15-year-old primary school pupils who participated in the Health Behaviour in School-aged Children 2009/2010 study. The association of subculture affiliation with early sexual initiation was adjusted for gender, family affluence, peer influence, lack of parental bonding and lack of parental monitoring in five consecutive models using logistic regression.
Results: Nearly 50% of the adolescents had a subculture affiliation. These youths were significantly more likely than other adolescents to have had sexual intercourse. Peer influence explained 49% of this association. Adding lack of parental bonding and lack of parental monitoring into the model weakened the association of subculture affiliation with early sexual initiation (20%), but this association remained statistically significant.
Conclusion: Youth subculture affiliation is strongly correlated with early sexual initiation. This association is mediated for a large part by peer influence and defective parental monitoring and bonding. Health promotion regarding early sexual initiation should therefore in particular target adolescents under strong influence of peers and with weak parental relationships.

Keywords*: adolescents, youth subcultures, early sexual initiation, parental monitoring, parental bonding, family affluence, peer influence, Slovakia*

Introduction

Non-mainstream groups of adolescents have been shown to accumulate various health compromising behaviours, such as substance use, early sexual initiation and violence (Sussman et al., 2007), with peers having a substantial influence on such activites (Hampton et al., 2005; Miller, 2010). Youth subcultures (Hip-hop, Techno-scene, Metal, Punk, Skinheads) characterised by a specific lifestyle, musical taste, shared values and behaviours (Nicholas, 2009) are an example of such groups (Bobakova et al., 2012; van der Rijt, d'Haenens, & van Straten, 2002; Verkooijen, de Vries, & Nielsen, 2007).

The sexual behaviour of youngsters is determined to a large extent by culture, demography, wealth and other regional factors (Wellings, Collumbien, & Slaymaker, 2006). Slovakia has a history of communism, a still rather influential Catholic Church, one of the lowest income levels within the EU (Eurostat, 2013), and rather low total fertility rates (Vano et al., 2011). Compared with other EU countries, the Slovak Republic currently has one of the youngest populations; youths aged 15 to 19 years account for 6.14% of the population (Vano et al., 2011). The mean age of sexual debut (sexarche) in Slovakia is 17.8 years (Durex Network Research Unit, 2009).

One of the most important factors affecting future sexual health and conduct is the timing of sexual debut. Early sexarche (commonly defined as before age 16) has been shown to be associated, for example, with a higher incidence of sexually transmitted infections (Hawes, Wellings, & Stephenson, 2010; Sandfort et al., 2008), the risk being relatively high even after sex with the first sexual partner (Forhan et al., 2009). Furthermore, early sexual initiation increases the likelihood of (i) early pregnancy, (ii) feelings of regret (Hawes et al., 2010) and (iii) a greater number of sexual partners in the future (Sandfort et al., 2008). Gender differences and socio-economic factors related to early sexarche vary between countries (Currie et al., 2008a; Hawes et al., 2010; Madkour et al., 2010).

Peers and parents have the greatest influence on the timing of sexual debut. Peer norms, attitudes and conduct modulate the sexual behaviour of adolescents to a great extent (French & Dishion, 2003; Hampton et al., 2005; Rosenthal et al., 2001). Perceived peer approval of intercourse, peers themselves being sexually active, and peers breaking rules, are all associated with a higher probability of early experience with coitus (French & Dishion, 2003; Hampton et al., 2005; Rosenthal et al., 2001). In contrast, strong parental bonding and monitoring, good communication with parents, and living in a complete family, are associated with delayed sexarche and other aspects of healthy sexual behaviours (de Graaf et al., 2011; French & Dishion, 2003; Hawes et al., 2010; Huang, Murphy, & Hser, 2011).

Only a few studies have examined sexual conduct in adolescent groups sharing specific music preferences. Hip-hop/rap, metal and rock in particular have been shown to reinforce inappropriate beliefs and choices regarding sex and relationships (Agbo-Quaye & Robertson, 2010; ter Bogt et al., 2010; Kistler & Lee, 2010; Zhang, Miller, & Harrison, 2008). Nothing is known about sexual behaviour within these self-selected youth subcultures, and this also holds true for the factors that influence such behaviour. Subcultures are based on relatively strong peer bonds, making stronger peer influence rather likely, probably at the expense of weaker parental influence (French & Dishion, 2003).

The aim of this study was to assess the association between subculture affiliation and early sexual initiation, and whether gender, family affluence, peer influence, parental bonding and parental monitoring affect this association.

Methods

Sample and procedure

We used data from the Health Behaviour in School-aged Children (HBSC) study conducted in 2010 in Slovakia. This WHO collaborative cross-national study is conducted every four years in more than 40 countries across the WHO European Region and North America. In order to obtain a representative sample, 134 larger and smaller schools located in rural- as well as in urban areas from all regions of Slovakia were randomly chosen from a list of schools obtained from the Slovak Institute of Information and Prognosis for Education. We contacted 108 schools, and 106 of them took part in our survey, corresponding to a 98% school response rate. Classes from the 5th to 9th grades were selected randomly, one from each grade per school.

We gathered data from 8,491 adolescents from the 5th to 9th grades of primary schools in Slovakia (response: 80%). Non-response was primarily due to illness (10%) and parental disapproval of their children's participation (7%). Only the 15-year-old adolescents from the 8th and 9th grades were asked questions about subcultures and cannabis use. A final sample of 1,605 adolescents (mean age=15.47 years; 49.7% boys) in the target age group of primary schools in Slovakia was thus obtained. Due to missing responses on the question about youth subcultures, 225 respondents were excluded. Analyses were thus performed on a total sample of 1,380 adolescents.

The study was approved by the Ethics Committee of the Medical Faculty at Safarik University in Kosice. Parents were informed about the study via the school administration and could opt out if they disagreed with it. Participation in the study was fully voluntary and anonymous, with no explicit incentives provided for participation. Adolescents could opt out at any stage. Questionnaires were administered by trained research assistants, in the absence of a teacher, during regular class time.

Measures

Subculture affiliation – Respondents were asked whether they would classify themselves as affiliated with one of the listed subcultures. They were asked to choose only one alternative, which best described their affiliation. Possible responses were: Hip-hop / Punk / Skinheads / Techno-scene / Metal / Church community / Other / I would not classify myself as affiliated with any subculture. Those who classified themselves as affiliated with a specific subculture (Hip-hop, Punk, Skinheads, Techno-scene, Metal) were categorised as 'adolescents with a subculture affiliation'. The remainder of the sample was categorised as 'adolescents without a subculture affiliation'.

Sexual Intercourse – Respondents were asked whether they ever had had sexual intercourse (for better understanding other colloquial terms were used as an example of fully penetrative sexual intercourse, such as 'making love', 'having sex', or 'going all the way'). Possible responses were: yes / no.

Peer influence – Respondents were asked how many (any / several / most / all) of the friends with whom they spent most of their free time, in their opinion, had had sex. Those who reported that most or all of those friends had had sex were considered to be 'exposed to peer influence'.

Parental monitoring – Respondents were asked about their perception of

what their mother and father knew about their activities and whereabouts (Brown & Mounts, 1993; Currie et al., 2008a). For each of the five items there were four answer options (she/he knows a lot / knows a little / doesn't know anything / don't have or don't see mother/father). Factor analysis was used to create two latent variables: mother's monitoring and father's monitoring. The higher adolescents scored in parental monitoring, the higher were their levels of perceived parental monitoring.

Parental bonding – Respondents were asked about emotional support and promotion of autonomy from their mother and father separately (Currie et al., 2008a; Parker, Tupling, & Brown, 1979). For each of the eight items participants could choose from four possible answers (almost always / sometimes / never / don't have or see this person). Of the initial eight items, two were excluded from the scale based on scale reliability analysis. The remaining six items showed satisfactory consistency (Cronbach's α = 0.83 for the mother; Cronbach's α = 0.94 for the father). Factor analysis was used to create two latent variables: mother's bonding and father's bonding. The higher adolescents scored in parental bonding, the higher were their levels of perceived parental bonding.

Family affluence – This parameter was measured using the Family Affluence Scale II (FAS II) (Currie et al., 2008a; Currie et al., 2008b), which consists of four questions: How many computers does your family own (None / One / Two / More than two)? Does your family own a car, van or truck (No / Yes, one / Yes, two or more)? Do you have a bedroom only for yourself (No / Yes)? During the past 12 months, how many times did you go on holiday with your family (Not at all / Once / Twice / More than twice)? We tallied the positive answers (range 0-9) and categorised them as follows: low affluence (score = 0–3), middle affluence (score = 4–6), and high affluence (score = 7–9).

Statistical analyses

We first described the background characteristics of the sample. Differences in the rate of sexual initiation, background characteristics, degree of sexual activity of peers and parental influence between adolescents with- and those without a subculture affiliation were assessed using the chi-squared test. Next, we performed multivariate logistic regression analyses regarding the association of subculture affiliation, and gender, family affluence, peer influence, parental bonding, and parental monitoring, with early sexual initiation (Model 1). We then adjusted for gender and family affluence (FAS) (Model 2). Model 3 was further adjusted for peer influence. Finally, we adjusted for a lack of parental bonding and parental monitoring, separately and jointly (Models 4, 5). The degree of reduction of the Odds Ratios (ORs) was computed using the formula: (OR [crude] – OR [adjusted]) / (OR [crude] – 1) x 100%. All data were analysed using SPSS 16.0 for Windows.

Results

Almost 50% of the adolescents reported an affiliation with one of the selected youth subcultures. Boys reported a subculture affiliation significantly more often than girls. A check for representativeness revealed that we were missing data on subculture affiliation for 225 respondents; however, only trivial differences were found in regard to experience with sexual intercourse between those 225 youths and the remainder of the sample. Adolescents with a subculture affiliation reported sexual intercourse and peer influence significantly more often than did the others (Table 1). We also found that youngsters with a subculture affiliation received significantly less parental monitoring and maternal bonding than others (Table 1).

Table 1 Rate of sexual initiation, background characteristics, degree of sexual activity of peers, and parental influence by subculture affiliation (chi-squared test).

	Adolescents with subculture affiliation		Adolescents without subculture affiliation		Total	p-value *
	n=650	%	n=730	%	N=1380	
Sexual initiation	106	17	53	7	159	<0.001
Gender						<0.001
Boys	387	60	267	37	654	
Girls	263	41	463	64	726	
Family affluence						ns
Low	163	27	192	27	355	
Medium	332	54	357	51	689	
High	116	19	153	22	269	
Most friends sexually active	97	16	53	7	150	<0.001
Parenting	Mean score (SD)		Mean score (SD)		N	
Bonding						
Mother	21.24 (2.86)		21.57 (2.37)		1337	<0.05
Father	19.53 (4.68)		19.82 (4.21)		1329	ns
Monitoring						
Mother	17.47 (2.69)		18.32 (2.08)		1343	<0.001
Father	15.61 (4.00)		16.06 (3.76)		1343	<0.05

SD, standard deviation; ns, not significant

Adolescents with a subculture affiliation were more than twice as likely to have had sexual intercourse than those who stated they had no such affiliation (OR: 2.33, 95% confidence interval [CI]:1.59-3.40; Table 2, Model 1). Boys were 1.6-times

more likely to report early sexual initiation than girls, and adolescents admitting to having sexually experienced peers were nearly nine times more likely to report early sexarche than those without such peers. Early sexual debut was also more likely in respondents reporting lower parental bonding and lower parental monitoring. We did not find an association of family affluence with early sexual initiation.

Adding gender and family affluence to the model did not affect the strength of the associations of subculture affiliation with the experience of sexual intercourse (OR: 2.25, 95% CI: 1.53-3.33; Table 2, Model 2). Adding peer influence explained 49% of the association of subculture affiliation with sexual intercourse (OR: 1.84, 95% CI: 1.22-2.78; Table 2, Model 3). Adding parental bonding to the model further weakened this association (by another 17%), but it still remained statistically significant. Both mother's and father's bonding were significantly associated with the probability of sexual intercourse among adolescents (OR: 1.72, 95% CI: 1.14-2.62; Table 2, Model 4). Adding parental monitoring to the model led to a trivial change in the association of subculture affiliation with sexual intercourse, but decreased the effect of mother's and father's bonding (OR: 1.70, 95% CI: 1.11-2.59; Table 2, Model 5).

Discussion

The aim of this study was to assess the association between subculture affiliation and early sexual initiation, and whether gender, family affluence, peer influence, parental bonding and parental monitoring explain this association. Adolescents with a subculture affiliation were significantly more likely than others to have had sexual intercourse, and they reported having significantly more sexually active peers. They also perceived significantly less parental bonding and monitoring.

Peer influence and lack of parental bonding and parental monitoring are associated with a higher risk of early sexual initiation. These factors mediated most of the differences between adolescents with a subculture affiliation and others, i.e. they jointly explained 90% of the association of subculture affiliation with early sexual initiation. However, after adjustment for all these factors, this association remained statistically significant.

The prevalence of sexual experience among 15-year-old Slovak adolescents is the lowest among the European countries involved in the HBSC study (Currie et al., 2012). The average prevalence of sexual experience in HBSC countries for 15-year-olds is 23% among girls and 29% among boys. This is nearly double that among Slovak adolescents. The mean age of sexual debut in Slovakia is 17.8 years, which is almost three years more than the age of the participants in the HBSC study whom we assessed. The Slovak adolescents in our sample were more sexually experienced than the average Slovak youth.

Boys were more likely than girls to report having had sex and to have a subculture affiliation. The higher prevalence of reported coitus among boys is in line with some previous studies (Currie et al., 2008a; Sandfort et al., 2008). According to the HBSC study, boys in the participating countries are more likely to report having had sex, although this gender difference is statistically significant only in a minority of countries (Currie et al., 2008a). Moreover, there are wide variations between countries, with no clear geographical patterns emerging (Currie et al., 2008a; Hawes et al., 2010; Madkour et al., 2010). Family affluence had no effect on early sexual initiation, which is in line with previous HBSC results regarding Slovakia.

Table 2 Crude effects of early sexual initiation and other covariates (Model 1) and associations of subculture affiliation with early sexual intercourse initiation subsequently adjusted for gender and family affluence (Model 2), peers' influence (Model 3), parental bonding and parental monitoring (Models 4,5).

		Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
		OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Sexual experience	**N=1195**	**Crude effects**				
Subculture affiliation	*No*	1 (reference)	1 (reference)	1 (reference)	1 (reference)	1 (reference)
	Yes	2.33 (1.59-3.40)***	2.25 (1.53-3.33)***	1.84 (1.22-2.78)**	1.72 (1.14-2.62)*	1.70 (1.11-2.59)*
Gender	*Girls*	1 (reference)	1 (reference)	1 (reference)	1 (reference)	1 (reference)
	Boys	1.61 (1.18-2.20)**	1.18 (0.80-1.72)	1.32 (0.88-1.97)	1.36 (0.90-2.05)	1.35 (0.89-2.06)
Family affluence	*High*	1 (reference)	1 (reference)	1 (reference)	1 (reference)	1 (reference)
	Middle	0.77 (0.52-1.15)	0.86 (0.54-1.37)	0.89 (0.54-1.46)	0.82 (0.49-1.35)	0.82 (0.49-1.35)
	Low	0.67 (0.42-1.08)	0.76 (0.44-1.31)	0.84 (0.47-1.49)	0.65 (0.36-1.19)	0.66 (0.36-1.20)
Peers having sex	*No*	1 (reference)		1 (reference)	1 (reference)	1 (reference)
	Yes	8.88 (6.10-12.92)***		8.09 (5.28-12.40)***	7.92 (5.12-12.25)***	7.78 (5.02-12.08)***
Parental bonding	*Father*	0.75 (0.65-0.87)***			0.81 (0.68-0.98)*	0.84 (0.62-1.13)
	Mother	0.74 (0.65-0.85)***			0.72 (0.61-0.84)***	0.74 (0.60-0.90)**
Parental monitoring	*Father*	0.83 (0.72-0.96)*				0.96 (0.71-1.31)
	Mother	0.79 (0.69-0.90)***				0.94 (0.76-1.17)

*OR, odds ratio; CI, confidence interval ; * p < 0.05, ** p < 0.01, *** p < 0.001*

In most Central and Eastern European countries a significant association was found between having had sexual intercourse and family affluence (Currie et al., 2008a). However, worldwide results are again inconsistent (Currie et al., 2008a; Hawes et al., 2010; Madkour et al., 2010; Valle et al., 2009). Family affluence did not seem to play a systematic role in the association between subculture affiliation and early sexual debut in our study. Moreover, adolescents with subculture affiliation did not differ in family affluence from other teenagers, which could simply be because youths with different social backgrounds can share similar values particular to a given subculture (Shildrick & MacDonald, 2006).

Adding peer influence explained a substantial part (49%) of the association between subculture affiliation and early sexarche. A strong influence from peers is in line with previous studies which found that attitudes, perceptions and sexual behaviours of peers are important determinants of such initiation (Hampton et al., 2005; L'Engle & Jackson, 2008). Moreover, involvement with deviant peers, often a core aspect of youth subcultures (Bobakova et al., 2012), is also considered to be a risk factor for early sexual debut (French & Dishion, 2003). We can assume that mixed gender peer groups connecting individuals with the same subculture affiliations and with positive attitudes towards sexual intercourse are creating an environment that makes early sexarche more likely. Although a big part of the association with an early first experience of coitus runs via peer influence, subculture affiliation remains a strong and statistically significant factor.

Rates of parental bonding were lower among adolescents with subculture affiliation, and adjustment for parental bonding decreased the association between subculture affiliation and early sexarche (17%). Our findings are in line with previous studies which found parental bonding to be associated not only with delay of sexual debut (de Graaf et al., 2010; de Graaf et al., 2011). These studies also showed an association of parental bonding with healthier sexual behaviours such as a lower number of sexual partners or use of contraceptives and condoms.

Parental monitoring, especially by the mother, seems to protect against early sexual initiation, but adding it to the model barely affected the association between subculture affiliation and early sexarche. Our data are again in line with those of other investigators (Hawes et al., 2010; Huang et al., 2011). Moreover, De Graaf et al. (2010) concluded that parental monitoring is more important for healthy sexual development than parental bonding. We have shown that - even though monitoring is important - it does not explain differences in relation to subculture affiliation, whereas parental bonding does. Possibly bonding creates an environment wherein parents can monitor adolescents more effectively via the latter's self-disclosure (Keijsers et al., 2009), making parental influence beyond direct parental supervision possible (de Graaf et al., 2010).

The association between subculture affiliation and early sexual initiation was partially explained by peer influence and a lack of protective factors; even after all adjustments, this association remained statistically significant. Other factors than those studied also make it more likely that adolescents with a subculture affiliation become sexually active. One such factor might be music preference (Agbo-Quaye & Robertson, 2010) connected to the particular youth subculture or substance use (Madkour et al., 2010; Wheeler, 2010) Likewise, physiological and psychological factors (Hawes et al., 2010; Paul et al., 2000; Rosenthal et al., 2001), unsupervised time spent with peers and the opposite gender (DiLorio et al., 2004) and the drive to have sex (Rosenthal et al., 2001) might play a role. The lack of protective factors,

such as bonds with parents, may lead to typical adolescent rebellion against parents and against conforming to society, as is embodied in youth subcultures. This could be a consequence of parents' difficulties encountered in monitoring or supervising more problematic adolescents effectively (Jackobson & Crocket, 2000) , or in contrast, this rebellion could be a consequence of an overprotective upbringing (Stattin & Kerr, 2000). Yet another explanation might simply be the desire of youths with a subculture affiliation to behave in a way other than is expected by society and their parents.

Strengths of our study are the representativeness of the sample and the assessment of an important and thus far unexplored topic. A limitation of this study could be that we miss data on subculture affiliation from 225 respondents. However, only trivial differences were found regarding experience with sexual intercourse between those 225 adolescents and the remainder of the sample. Including older age groups might contribute to our understanding of factors that influence sexual behaviour, especially in teenagers with less sexual experience.

Another weakness is that we only included a question on vaginal intercourse. Sexual activity in adolescents consists of a variety of non-coital and coital acts, and some authors stress the importance of covering sexual behaviour in its full range (Haydon, Herring, & Halpern, 2012). Unfortunately, we could not do this. Another limitation of our study is that we did not address the sexual orientation. Thus not all respondents may have been referring to vaginal intercourse when mentioning sexual activity (Malacad & Hess, 2011). Our findings should thus be generalised with caution.

The cross-sectional design of our study is still another limitation: it did not allow us to explore causal pathways.

Our findings imply that early sexual initiation is much more frequent in adolescents with a subculture affiliation, even when higher peer influence or lower parental bonding and monitoring are accounted for. Other risky and rule-breaking behaviours which, at any rate, are encountered in this age-group (van Nieuwenhuijzen et al., 2009), also occur more in youth subcultures (Bobakova et al., 2012). This should be taken into account when planning preventive activities aimed at preserving sexual health in these subcultures: they should be adapted to the youth subcultures concerned.

Youth subculture affiliation is strongly associated with early sexual initiation. This link is to a great extent mediated by peer influence and a lack of protective factors such as parental monitoring and bonding.

Chapter 7

Does the influence of peers and parents on adolescents' drunkenness differ between Roma and non-Roma adolescents in Slovakia?

Daniela Bobakova, Andrea Madarasova Geckova, Daniel Klein, Sijmen A. Reijneveld, Jitse P. van Dijk

Published: Ethnicity & Health. 2012, 17(5), 531-541.

Abstract

Background: Roma adolescents have been shown to use less alcohol than non- Roma adolescents. This could be due to the protective influences of peers and parents.
Objective: The purpose of this study was to explore differences in the levels of peer and parental influence and their effects on drunkenness between Roma and non-Roma adolescents.
Design: Data were obtained in Eastern Slovakia from 330 Roma (mean age_14.50; 48.5% boys) and 722 non-Roma (mean age_14.86; 53.2% boys) primary school pupils. We analysed data on adolescent drunkenness (being drunk at least once in the past four weeks), parental monitoring (parents knowing with whom their children are when they go out) and peer influence (best friend drinking alcohol at least once a week) using logistic regression.
Results: Roma adolescents self-reported more parental monitoring and less peer influence when compared with their non-Roma counterparts (pB0.001). Less parental monitoring contributed to the probability of drunkenness only among girls (OR/CI: 4.17/2.00_8.69). This effect of parental monitoring was not modified by ethnicity. Peer influence affected drunkenness in both boys (OR/ CI: 3.34/1.91_5.85) and girls (4.84/2.55_9.19), but there was no significant interaction of ethnicity with peer influence.
Conclusion: While both boys and girls seem to be sensitive to peer influence, only girls appear to be sensitive to parental monitoring in regard to drunkenness. Stronger parental monitoring and weaker peer influence partially explain the lower prevalence of drunkenness among Roma adolescents, whereas the effects of these factors per level do not vary between Roma and non-Roma adolescents.

Keywords: *Roma, ethnicity, drunkenness, adolescents, peers, parents, Slovakia*

Introduction

Ethnic minority groups frequently differ from majority populations in regard to the prevalence of alcohol use (Karlsen et al., 1998; Bossarte & Swahn, 2008; Wang et al., 2009; van Tubergen & Poortman, 2010). One of the largest European minority populations, especially in Central Europe, is Roma (Gypsies), whose population in the Slovak Republic is estimated at 430,000 (8% of the total population). Approximately 15% of school-aged children are Roma (Marcincin & Marcincinova, 2009).

'Health and the Roma Community: Analysis of the Situation in Europe' is one of the few studies that provides data on alcohol consumption among Roma adults in Slovakia and six other European countries (FSG, 2009). This study shows that the prevalence of alcohol use during the preceding 12 months is highest among Roma in Slovakia (70%), whereas the overall percentage of Roma drinkers in these countries is 56% (FSG, 2009). This high prevalence of alcohol use among Roma in Slovakia seems to be in line with the alcohol consumption per capita in Slovakia being generally one of the highest in Europe (Popova et al., 2007).

Evidence on factors contributing to the lower occurrence of alcohol use and abuse among Roma adolescents is of major importance for public health, as the consumption of alcohol contributes considerably to mortality, and its prevalence is already high at an early age. In the period 2001-2003, every fourth male and every fifth female of working age in the Slovak Republic died due to alcohol-related causes (Rosicova et al., 2011). The Health Behaviour in School-aged Children (HBSC) international report on the 2005/2006 survey shows that 11% of 13-year-olds and 33% of 15-year-olds have been drunk at least twice during their lifetime (Currie et al., 2008a). Slovak adolescents self-reported slightly higher rates of being drunk at least twice during their lifetime than the HBSC average. These reported rates were 12% among 13-year-olds in Slovakia and 35% among 15-year-olds (Currie et al., 2008a).

Roma adolescents, at least girls, have been shown to drink less alcohol (Kanapeckiene et al., 2009; Kolarcik et al., 2010) than non-Roma adolescents in the same country, even though the general public tends to assume that they have a higher prevalence of substance use (Gourgoulianis et al., 2000; Koupilova et al., 2001; Ringold et al., 2005; Csepe et al., 2007; Kosa et al., 2007; Gerevich et al., 2010). Kanapeckiene et al. (2009) did not find any significant differences between Roma and non-Roma adolescents in Lithuania regarding regular alcohol use but did find a larger proportion of adolescents who have never used alcohol among Roma. Also, Kolarcik et al. (2010) did not find any significant differences regarding drinking between Roma and non-Roma adolescents in Slovakia, in regard to both boys and girls.

Peer pressure and parenting practices are factors associated with adolescents' substance use (Kuntsche et al., 2004; Eitle, 2005; Mayberry et al., 2009; Wang et al., 2009). Substance use by peers is significantly associated with adolescents' substance use. The association is particularly strong regarding use by an adolescent's best friend, stronger than use within the wider cliques and crowds in which they participate (Hussong, 2002). One important factor which decreases adolescents' contact with alcohol use is parental monitoring (Fors et al., 1999; Griffin et al., 2000; Beck et al., 2004), i.e., parents' awareness of an adolescent's activities and whereabouts (Jacobson & Crockett, 2000; Smetana & Daddis, 2002). Boys and older adolescents who receive less monitoring than girls and younger counterparts show a steeper trajectory in the development of alcohol misuse (Barnes et al., 2000).

Roma ethnicity seems to operate as a protective factor with regard to

substance use (Hajioff & McKee, 2000; Kolarcik et al., 2010). One study on Slovak adolescents (mean age 14.86) showed that only 25% of Roma boys and 16% of Roma girls reported being drunk in the past four weeks compared with 69% of non-Roma boys and 59% of non-Roma girls (Kolarcik et al., 2010). One explanation for this difference may be that peer and parental influences operate differently depending on the ethnic group concerned (Wang et al., 2009). Wang et al. (2009) suggested that ethnic differences in parental monitoring and peer influence could explain ethnic differences in adolescent substance use. Evidence on the association of peer group pressure and parenting practices with drunkenness among Roma compared with non-Roma adolescents is lacking. Thus, the aim of this study was to explore differences in the levels of peer and parental influence and their effects on drunkenness between Roma and non-Roma adolescents in Slovakia.

Methods

Sample and procedure

The highest concentrations of the Roma population in Slovakia can be found in the eastern part of the country (Slusna, 2010). Schooling in Slovakia is compulsory till the age of 16 and free of charge for primary school pupils, who attend school mostly in their place of residence. We contacted 22 primary schools in small towns and villages in the eastern part of Slovakia, selected from a list of schools provided by the Slovak Institute for education information and prognoses. The schools were all located near separated or segregated Roma communities. The separated type refers to a Roma population concentrated in a certain part of a town or village - either inside or on the outskirts; the segregated type refers to a settlement type that is remote from towns and villages or separated by a barrier (Filadelfiova et al., 2007). Criteria for school selection were: at least 30 children aged 13 years or older and currently living in Roma settlements (the segregated and separated type), the ability to offer separate rooms where interviews could be conducted and the availability of a list of children suitable for our study who could be randomly chosen and asked to participate in the interview. Out of the 15 schools which met the criteria, 14 were willing to participate. Respondents were chosen randomly after stratification by gender from the lists of pupils living in Roma settlements prepared by the schools. Interviews were conducted individually during regular class time by community workers trained for the study.

Non-Roma were selected in order to provide a representative sample of adolescents from the majority population of comparable ages as the Roma sample. For comparison, 15 randomly chosen schools in the same geographical area with no evident Roma community in the vicinity were asked to participate in the study. Two of the 11 schools willing to participate were excluded because they did not have at least one class of eighth and ninth grade that had not previously been included in a research project from our department. The questionnaires were administered during regular class time (45 minutes) by trained research assistants in the absence of teachers. The questionnaire asked the same questions as the structured interview in the Roma sample.

Schools were excluded from our sampling only when facilities were insufficient or when it was necessary to avoid mixing Roma and non-Roma adolescents in both

samples. Therefore, we do not expect such exclusions to have any effect on our results.

The study was approved by the Ethics Committee of the Faculty of Science at P.J. Safarik University in Kosice. Data were collected in May - June 2007. Parents were informed of the study via the school administration and could opt out if they disagreed with it. Participation in the study was fully voluntary and anonymous with no explicit incentives provided for participation.

The sample consisted of primary school pupils. It comprised 330 Roma aged 12.0-17.0 (mean age=14.50; SD=1.03; 48.5% boys) and 722 non-Roma aged 13.7- 17.2 (mean age=14.86; SD=0.63; 53.2% boys). Differences between Roma and non-Roma were not statistically significant. The response rates were 99.7% and 95.9% for Roma and non-Roma adolescents, respectively.

Measures

Drunkenness was measured by asking respondents whether they had been drunk in the past four weeks, with possible responses no/once or twice/three times and more. We dichotomised the answers into two categories: those who had been drunk at least once in the past four weeks and those who had not.

Parental monitoring was measured by asking respondents whether their parents knew with whom they are when they go out, with possible responses always/sometimes/seldom, never/I don't go out. The variable was dichotomised. Those whose parents always knew with whom they are when they go out were considered to be under parental monitoring. Those who reported that their parents did not always know with whom they are when they go out were considered to be not under parental monitoring. Those who did not go out (2.3%) were excluded from the analyses.

Peer influence was measured by asking respondents if their best friend drinks alcohol at least once a week (yes/no).

Highest education of parents as a socio-economic position indicator was measured by asking respondents about their father's and mother's highest educational degree attained; we used the highest education of the two.

Social desirability is the tendency of respondents to reply in a manner that will be viewed favourably by others. Higher social desirability thus can affect the validity of results. It was measured using the Social Desirability Response Set (SDRS-50) (Hays et al., 1989). The scale inquires about common situations that people are prone to respond to favourably (e.g., 'No matter who I'm talking to, I'm always a good listener'). The five items are then rated with a 5-point Likert scale (definitely true, mostly true, don't know, mostly false, definitely false). The total score is calculated only from the extreme answers of each item (scored 1 point), meaning the total score ranges from 0 to 5 points, with a higher total score indicating higher levels of socially desirable responses.

Statistical analyses

First, descriptive statistics (prevalence rates and means) for background characteristics, levels of peer influence and parental monitoring and drunkenness among Roma and non-Roma girls and boys were computed. Next, we assessed the association of parental monitoring and peer influence with adolescents' drunkenness using logistic regression. Model 1 tested the effects of ethnicity on drunkenness adjusted for age.

Parental monitoring and peer influence were each added separately to Model 2a and Model 2b. Model 3 was adjusted for both parental monitoring and peer influence in one step. Furthermore, we added the highest education level of parents as a socio-economic position indicator and social desirability to Model 4 and explored whether they affected the relationship between drunkenness and parental monitoring or peer influence. Since we found statistically significant gender differences regarding the association of ethnicity with the use of alcohol, the models were constructed separately for girls and boys. We also assessed the interaction of ethnicity with lack of parental monitoring and peer influence and the interaction of parental monitoring with peer influence. We tested the significance of the interactions by comparing the fit (- 2 log likelihood) of the models with and without interaction. Correlations induced by the clustering of individual information at school level were taken into consideration by using Huber-White standard errors. Analyses were performed using SPSS 16.0 for Windows and STATA.

Results

Roma adolescents reported being drunk less frequently in comparison with their non-Roma counterparts (Table 1). Roma also reported being significantly more under parental monitoring and significantly less under the influence of their best friends compared with their non-Roma counterparts (Table 1). Differences between Roma and non-Roma were found also in highest education of parents and social desirability (Table 1). Non-Roma ethnicity Significantly contributed to the probability of drunkenness, but only among girls (Table 2, Model 1). Adding (a lack of) parental monitoring into the model decreased the effect of ethnicity on adolescents' drunkenness to statistically insignificant level among girls (Table 2, Model 2a). Parental monitoring explained 26% of the observed association between ethnicity and drunkenness among girls. Interaction between the lack of parental monitoring and ethnicity was not significant (not shown in the tables).

Table 1 Distribution of covariates among Roma and non-Roma adolescents.

	Non-Roma N=666 n (%)	Roma N=330 n (%)	p-value*
Drunken in past 4 weeks	139 (19.6)	41 (12.4)	<0.01
Lack of parental monitoring	459 (65.9)	143 (44.5)	<0.001
Best friend drinking	181 (26.5)	53 (16.1)	<0.001
Gender			ns
Girls	312 (46.8)	170 (51.5)	
Boys	254 (53.2)	160 (48.5)	
Highest education of parents			<0.001
elementary	9 (1.3)	154 (47.8)	
apprenticeship	82 (11.6)	132 (41.0)	
secondary	338 (47.9)	28 (8.7)	
university	277 (39.2)	8 (2.5)	
Social desirability	68 (10.1)	133 (40.7)	<0.001

** chi-square statistic*

Table 2 Differences in the effect of parental monitoring on drunkenness between Roma and non-Roma adolescents by gender adjusted for age, social desirability and highest education of parents.

	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)
Girls (N=391)			
Roma ethnicity	0.47 (0.24–0.92)*	0.58 (0.29–1.15)	0.75 (0.18–3.04)
Age	1.01 (0.65–1.57)	1.02 (0.64–1.63)	1.03 (0.64–1.67)
Lack of parental monitoring		4.33 (1.62–11.53)**	3.96 (1.08–14.56)*
Social desirability			0.93 (0.72–1.18)
Highest education of parents			
university			1
primary			0.51 (0.14–1.80)
apprenticeship			0.70 (0.24–2.05)
secondary			0.88 (0.58–1.34)
Nagelkerke R square	0.03	0.11	0.12
Boys (N=407)			
Roma ethnicity	0.91 (0.43–1.93)	0.97 (0.46–2.05)	1.48 (0.52–4.26)
Age	1.13 (0.85–1.52)	1.15 (0.86–1.54)	1.11 (0.83–1.47)
Lack of parental monitoring		1.28 (0.81–2.02)	1.46 (0.74–2.89)
Social desirability			0.87 (0.66–1.15)
Highest education of parents			
university			1
primary			1.02 (0.35–2.95)
apprenticeship			1.36 (0.65–2.84)
secondary			1.33 (0.76–2.32)
Nagelkerke R square	0.00	0.01	0.02

** p < 0.05, ** p < 0.01, *** p < 0.001*

Peer influence significantly increased the probability of adolescents' drunkenness in girls as well as in boys (Table 2, Model 2b), but the interaction of ethnicity with peer influence was not significant (not shown in the tables). Adding (a lack of) parental monitoring together with peer influence into the model did not significantly change the results (Table 2, Model 3). Adjustment for the highest education of parents and social desirability did not affect the strength of the associations of parental monitoring and peer influence with drunkenness (Table 2, Model 4). The interaction of parental monitoring with peer influence was statistically significant in girls but not in boys. In girls, the OR was > 1, i.e., the presence of peer

influence and the lack of parental monitoring together made drinking more likely than did the separate factors individually. Adding the interaction to the model did not substantially affect the association between drunkenness and ethnicity. These results are not shown in the tables.

Discussion

This study aimed to explore differences in the levels of peer and parental influence and their effects on drunkenness between Roma and non-Roma adolescents in Slovakia. The associations between drunkenness and the influence of peers and parents were controlled for the effect of socio-economic position, as measured by the highest educational level of the parents, but the influence of socio-economic position was found to be negligible. Roma adolescents reported being significantly more monitored by their parents and being significantly less influenced by their best friends than their non-Roma counterparts. Lack of parental monitoring and peer influence were associated with drunkenness in Roma as well as in non-Roma adolescents, but these factors mediated only some of the ethnic differences. Moreover, the effects of lack of parental monitoring and peer influence on drunkenness did not differ between Roma and non-Roma adolescents, considering that the interaction of both factors with ethnicity was not significant. Thus, ethnicity did not modify the effects of lack of parental monitoring and peer influence.

Our findings are in contrast to those of Wang et al. (2009), who found that differences in parental and peer influence fully explained ethnic differences in adolescent drunkenness. An explanation for this difference may be that social norms, values and health beliefs such as the purity of the body or fatalism among Roma differ not only from the majority population but also from other minority groups (Zeman et al., 2003; Vivian & Dundes, 2004; Van Cleemput et al., 2007). Additionally, being a member of a community such as the Roma with lower rates of drunkenness may lead to a higher probability of having friends who drink less. This could reinforce the protective effect of ethnicity, as it also increases the probability of being supported by a best friend to drink less.

The differences in parental monitoring that we found between Roma and non- Roma adolescents echo the finding of Fauth et al. (2007), who found that higher levels of parental monitoring in a minority population living in high-poverty neighbourhoods can ultimately lead to less substance use. The same mechanism may also play a role in segregated and separated Roma communities.

Rates of unemployment, dependence on social benefits, poor housing conditions and low education are higher among Roma. This may at least partially explain the differences in risk-behaviour patterns. Low socio-economic position represented by low education of parents partially explains the ethnic differences in drunkenness among Roma and non-Roma girls (Kolarcik et al., 2010). Results from the large cross-national data-set of the HBSC study showed that adolescents from low an medium affluence family backgrounds had a lower risk of regular alcohol use compared with those from high affluence families (Richter et al., 2009).

Our study is one of the first comparing recent drunkenness of Roma adolescents with drunkenness in the majority population of the same age. One other study (Gerevich et al., 2010) compared Roma adolescents with the majority population, but this concerned lifetime alcohol intoxication of an older group of

adolescents in Hungary. Its findings showed significantly higher lifetime prevalence of alcohol intoxication among Roma adolescents compared with their non-Roma counterparts. Apparently, lifetime prevalence is somewhat associated with recent drunkenness, but it may be more sensitive to recall bias. In addition, it might be that Roma on average start drinking alcohol at a higher age, though we have no indications that this is indeed the case. Finally, it might be that either the drinking behaviour of Roma adolescents in Hungary largely differs from that of Roma in Slovakia, or that this applies to the majority population in these two countries. Regarding the latter, the HBSC international report on the 2005/2006 survey shows that among 13-year-olds, 12% of Slovak girls and 16% of Slovak boys have been drunk at least twice compared to 9% of Hungarian girls and 12% of Hungarian boys. This difference then disappeared in 15-year-olds (Currie et al., 2008a). Regardless, additional research is needed on this topic.

Roma adolescents integrated or living in cities may differ from Roma adolescents living in separated or segregated settlements; thus our results cannot be generalised to the Roma population as a whole.

Strengths and limitations

The strengths of our study are that it involves a considerable sample of a hard-toreach population of Roma adolescents and does so with a high response rate. Our sample was representative for Roma adolescents living in settlements and attending regular schools, and we were able to compare them with non-Roma adolescents living in the same geographical area. As Roma are a very heterogeneous group regarding living conditions and levels of integration, our results should be generalised with caution regarding other Roma groups.

A limitation of our study may be that data from the Roma were collected via an interview, and data from non-Roma came via self-reported questionnaires. We can assume that the data on alcohol obtained via an interview can be more affected by social desirability and fear of reprisal, because the level of privacy and anonymity is lower when compared with the administration of self-reported questionnaires (Brener et al., 2003). On the other hand, collecting data via an interview enabled us to cope with the illiteracy of Roma adolescents. Moreover, our findings found no influence of social desirability either on parental monitoring and peer influence or on their interaction with ethnicity.

Another potential limitation is that we may have missed some Roma adolescents due to truancy. According to the Ministry of Education, rates of unexcused absences in 2005 were about five times higher among Roma than the average (Ministry of Education Slovak Republic, 2008). It seems likely that rates of drunkenness are higher and parental monitoring is weaker among these absentees, leading to some underestimation of effects among Roma.

Asking about a 4-week recall period regarding drunkenness could lead to culturally specific celebrations or events typical only for Roma or non-Roma being included in period of data collection. The period of the data collection was chosen after consulting experts working in Roma communities and was selected such that occasions were avoided which might be characterised by a higher consumption of alcohol. Moreover, asking respondents a question on drunkenness in the past four weeks is a validated standard approach used worldwide in studies such as HBSC or European School Survey Project on Alcohol and Other Drugs (ESPAD).

Implications

Our study shows that the effects of parents and peers do not differ between Roma and non-Roma adolescents, thus implying that interventions among Roma should focus on maintaining the low peer influence and strong parental monitoring. Moreover, our findings should be replicated in larger studies. These should focus on the way in which parental monitoring and peer influence affect adolescents' drunkenness among different ethnic groups, as our study shows a rather strong but not statistically significant interaction between these factors and ethnicity.

Conclusion

Parental monitoring and peer influence explain some of the lower prevalence of drunkenness among Roma adolescents, but their effects do not vary between Roma and non-Roma adolescents. Interventions should focus on maintaining the low peer influence and strong parental monitoring among Roma adolescents and aim at avoiding an increase in alcohol use in Roma adults.

Key messages

Roma adolescents seem to be significantly more monitored by their parents and being significantly less influenced by their best friends than their non-Roma counterparts.

Parental monitoring and peer influence both seem to affect adolescents' drunkenness but there no significant difference was found in how these two factors contribute to the drunkenness of Roma and non Roma adolescents.

Chapter 8

General discussion, implications and conclusions

This study intended to assess the associations between subculture affiliation (Hip-hop, Techno-scene, Metal, Punk, Skinheads) and problem behaviour (substance use, fighting, truancy, low academic achievement, and early sexual initiation). We were also interested whether peer- and parent-factors affect these associations. Furthermore, we looked into the role of gender and socioeconomic differences in these associations.

In this chapter the main findings of this study are summarised (8.1) and discussed (8.2). Next, the strengths and limitations of this study are addressed (8.3). Finally, we discuss its general implications for practice and policy, as well as for future research (8.4).

8.1 Main findings

The main findings are summarised per research question as defined in Chapter 1; the number of the chapter that reports the study concerned is provided in parentheses.

Research question 1 (Chapter 3)

Is youth subculture affiliation associated with a higher risk of substance use? How do gender, family affluence and substance use by peers contribute to this association?

Our findings revealed strong and significant associations between subculture affiliation and substance use, even when controlling for gender and family affluence, which slightly decreased the strength of these associations. Adjustment for substance use by peers substantially reduced the associations of subculture affiliation with substance use, but these associations remained rather strong and statistically significant.

Research question 2 (Chapter 4)

Do protective factors such as parental monitoring, parental bonding and parental substance abstinence affect the association between youth subculture affiliation and substance use?

Parental monitoring was the protective factor that most affected the associations between youth subculture affiliation and substance use and did so noticeably more in girls than in boys. Parental bonding and parental substance abstinence seemed to be protective too, but not as much as parental monitoring. After adjustments for each protective factor, subculture affiliation remained strongly and significantly associated with substance use.

Research question 3 (Chapter 5)

Is there an association between subculture affiliation and fighting, truancy and low academic achievement? Do parental monitoring and parental bonding affect these associations?

Adolescents with a subculture affiliation were more likely to fight, skip school and achieve lower at school compared with other adolescents when controlling for gender and family affluence. The role of parental bonding and particularly parental monitoring in adolescents with a subculture affiliation in relation to fighting, truancy and low academic achievement seemed to be protective, with the most visible effect regarding truancy. Nevertheless, part of the associations between subculture affiliation and fighting or low academic achievement remained unexplained.

Research question 4 (Chapter 6)

Is there an association between subculture affiliation and early sexual initiation? How do gender, family affluence, peer influence, lack of parental bonding and lack of parental monitoring contribute to this association?

Adolescents with a subculture affiliation were significantly more likely than others to have had sexual intercourse. They also reported being significantly more influenced by their peers and significantly less bonded with and monitored by their parents. Peer influence and lack of parental bonding and parental monitoring are associated with a higher risk of early sexual initiation. Although these factors mediated most of the differences between adolescents with a subculture affiliation and others, and after all of the adjustments which together explained 90% of the association of subculture affiliation with early sexual initiation, this association remained statistically significant.

Research question 5 (Chapter 7)

Does the influence of peers and parents on adolescents' drunkenness differ between Roma and non-Roma adolescents?

Roma adolescent girls reported being drunk less frequently than their non-Roma counterparts. They also seemed to be significantly more monitored by their parents and significantly less influenced by their best friends. Lack of parental monitoring and peer influence were associated with drunkenness in Roma as well as in non-Roma adolescents, but these factors mediated only some of the ethnic differences. Moreover, the effects of lack of parental monitoring and peer influence on drunkenness did not differ between Roma and non-Roma adolescents.

8.2 Discussion of the main findings

The main findings will be discussed within the framework of the general aims as outlined in Chapter 1. We will focus on various types of problem behaviours found in adolescents with subculture affiliation. Next, we will discuss the most important factors influencing examined behaviours concerning peers and parents. Furthermore, we will focus on gender and socio-economic differences. Finally we will address strengths and limitations of this study and focus on implications for practice and for future research.

8.2.1 Problem behaviours in youth subcultures

Punk, Skinheads, Techno-scene, Metal and especially Hip-hop were found to be very popular among Slovak adolescents. Almost one-half of 15-year-olds is affiliated with one of these distinct youth subcultures, and such affiliations were strongly associated with substance use (smoking, drinking, drunkenness and cannabis use), fighting, truancy, low academic achievement and early sexual initiation. Interestingly, Roma adolescents did not differ regarding drunkenness from non-Roma adolescents, even though the general public tends to assume that they have a higher prevalence of substance use (Gourgoulianis et al., 2000; Koupilova et al., 2001; Ringold et al., 2005; Kosa et al., 2007; Csepe et al., 2007; Gerevich et al., 2010).

Other studies have shown that listening to specific musical genres which are closely connected to youth subcultures was a risk factor for substance use (Baker & Bor, 2008; Forsyth, Barnard, & Mckeganey, 1997; Mulder et al., 2009), which is in line with our results. In addition, there are studies which explored the associations between the mentioned self-selected risky subcultures (Hip-hop, Punk, Skinheads, Techno-scene) and substance use (alcohol, drugs) (Allaste & Lagerspetz, 2002; Anderson et al., 2009; Racz, 1992), as we did. Their results are in line with ours, but on average they included older respondents than our study. Young adolescence seems to be crucial for establishing health-risk behaviours, (Currie et al., 2008a) implying that our findings may have bigger public health implications than the other mentioned studies.

Our findings are also in line with a Danish and a Dutch study on self-selected subcultures that concerned a similar age group (van der Rijt, d'Haenens, & van Straten, 2002; Verkooijen, de Vries, & Nielsen, 2007). However, those studies used different typologies for subgroups, making it difficult to compare their results regarding groups with a higher riskwith our results. In general, similarly as in our study, these studies found adolescents with a subculture affiliation to be more likely to report smoking, drinking and soft drug use (van der Rijt, d'Haenens, & van Straten, 2002; Verkooijen, de Vries, & Nielsen, 2007).

Our study also found that the risk of fighting, truancy and low academic achievement is higher in adolescents affiliated with youth subcultures than in others. There is a lack of studies which relate such problem behaviours directly to subculture affiliation rather than only to musical preferences themselves. Only regarding fighting does some evidence exist showing that such behaviours are more likely among youth affiliated with non-mainstream subcultures (Selfhout et al., 2008; Simi et al., 2008). The evidence is also scarce regarding academic achievement and truancy. Only one study examined the association between music preference and academic achievement (Bannon, 2006), but it found no association. Moreover, nothing is known about the association between music preference and truancy.

There is a lack of studies focusing on youth subcultures rather than on music preference, thus a comparison with our results is difficult. Nevertheless, we were able to show associations between youth subcultures and substance use, which is commonly associated with other problem behaviours such as fighting, truancy and low academic achievement (Fleming et al., 2010; Fraga et al., 2011; Henry, 2010; Reid, 2010; Swahn et al., 2009). This is in line with our findings.

We further found a positive association between subculture affiliation and early sexual initiation. There is also a lack of evidence on the direct relation of beliefs and behaviours regarding sex and relationships with subculture affiliation rather than

only with musical preferences. The few available studies show that Hip-hop/rap, metal and rock often reinforce inappropriate beliefs and behaviours regarding sex and relationships (Agbo-Quaye & Robertson, 2010; Arnett, 1992; ter Bogt et al., 2010; Took & Weiss, 1994). These then have an impact on sexual norms and influence sexual behaviour (Agbo-Quaye & Robertson, 2010).

We can assume that a broad set of factors mediates the association between adolescents' subculture affiliation with more frequent experience of sexual intercourse. One of these may be the use of legal as well as illegal substances, which was found to be associated with a higher chance of early sexual initiation (Madkour et al., 2010; Wheeler, 2010). We found substance use to be strongly associated with youth subcultures; thus, we can assume this to have an impact on early sexual initiation in adolescents affiliated with youth subcultures. Also, low academic achievement and school attachment have been found to be related with sexual experience (Madkour et al., 2010; Wheeler, 2010). Our studies show predictors of low acadmemic achievement to be associated with youth subculuture as well. In addition, physiological and psychological factors may play a role. These includes things, such as earlier maturation and puberty (Hawes, Wellings, & Stephenson, 2010; Paul et al., 2000); having the opportunity, e.g. unsupervised encounters with peers and the opposite sex (DiLorio et al., 2004); and reasons for having sexual intercourse, including curiosity, feelings of being grown up, pressure from a partner, or friends all having sexual intercourse (Rosenthal et al., 2001). This does not apply only for early sexual initiation. Similar factors have also been shown to be associated with problem behaviours in youth subcultures. We did not study them, but further research may have more to add. Involvement in one problem behaviour might lead to more problems in the future, leading to a snowball effect of risky behaviours.

We also found youth subcultures to be associated with various problem behaviours that seem to be rather hazardous regarding health-related outcomes in adulthood (Haller et al., 2010; Childs et al., 2011; Jessor, 1991). Problem behaviour can serve as an instrument to gain peer acceptance and independence from parents or to cope with developmental stress. Such behaviour has long-term as well as short-term consequences and represents a risk for health, well-being and future life (Richter, 2009; Haller et al., 2010; Childs et al., 2011). Adolescents with subculture affiliation reported various regular and established patterns of problem behaviours rather than only experimental behaviour, and thus they have a higher chance of later adverse health or lower socioeconomic position (Richter, 2009).

8.2.2 Peer influence on selected behaviours

Our study showed adolescents' substance use to be strongly associated with substance use among peers, which is in line with other studies (Glaser, Shelton, & van den Bree, 2010; Mayberry, Espelage, & Koenig, 2009). This may be due to the fact that the peers who are involved in substance use also share an interest in the same subcultures. Said in a different way, existing substance use patterns can possibly determine an adolescent's subculture affiliation via peer selection (Madarasova Geckova et al., 2005). We can further assume that besides this selection effect, the association between youth subcultures and adolescents' substance use also operates via their peers being involved in the same youth subcultures, which shapes further risk behaviour (Mulder et al., 2010). One way or another, having a subculture

affiliation itself increases the risk of being involved in substance use, independent of the influence of peers.

Peer influence was associated with drunkenness in Roma as well as in non-Roma adolescents. Roma adolescents reported being significantly less influenced by the drinking of their best friends than their non-Roma counterparts, whereas the effects of peer influence on drunkenness, if occurring, did not differ between Roma and non-Roma adolescents. Being a member of a community, such as the Roma with lower rates of drunkenness (Kolarcik, 2012), may lead to a higher probability of having friends who drink less. This could reinforce the protective effect of ethnicity, as it also increases the probability of being supported by a best friend to drink less.

Much of the association between subculture and early sexual initiation operates via peer influence. This is in line with previous studies which showed that peer attitudes, perceptions and sexual behaviours are important determinants of sexual initiation (Hampton et al., 2005; L'Engle & Jackson, 2008). We can assume that subcultures that connect individuals of both genders to the same subculture affiliations and that are associated with positive attitudes towards sexual intercourse create an environment that makes early sexual initiation more likely.

8.2.3 Parental influences on selected behaviours

We found that adolescents with a subculture affiliation were monitored to a lesser degree by their parents than other adolescents, which may partially explain the higher levels of substance use among those in youth subcultures. The association of parental monitoring with less substance use has been shown previously (Barnes et al., 2006; Raboteg-Saric, Rijavec, & Brajsa-Zganec, 2001; Wills & Yaeger, 2003). We also found higher levels of parental monitoring in Roma adolescents, which may explain the lower levels of substance use among Roma girls. This echoes the finding of Fauth et al. (2007), who found that higher levels of parental monitoring in a minority population living in high-poverty neighbourhoods can ultimately lead to less substance use. The same mechanism may also play a role in segregated and separated Roma communities. Ethnicity did not modify the effects of lack of parental monitoring on adolescents' drunkenness.

Less parental monitoring also significantly accounted for the higher occurrence of fighting, truancy and low academic achievement in adolescents with a subculture affiliation. Adjustment for parental monitoring caused a modest decrease in the association between subculture affiliation and frequent fighting and between subculture affiliation and lower academic achievement. Both associations remained statistically significant, however, implying that subculture affiliation also has an effect independent from parental monitoring. The association between subculture affiliation and truancy was fully accounted for by the lack of parental monitoring.

Several studies found parental monitoring to be associated with a delay of sexual debut (Hawes et al., 2010; Huang et al., 2011), similarly as in our study. However, even though high parental monitoring was protective against early sexual initiation, its contribution explained only a negligible part of the association between subculture affiliation and early sexual initiation. The influence of subculture and peers on sexual initiation seems to be independent from the influence of parental monitoring. Parental monitoring does not seem to be protective against early sexual initiation and explains only a negligible part of the association between subculture affiliation and early sexual initiation.

Although parental bonding is considered to be a protective factor that reduces substance use in adolescents (Wang et al., 2011; Wills & Yaeger, 2003), in our study it hardly affected the association between subculture affiliation and substance use. Our findings suggest that the mediating protective effect of parental bonding with regard to substance use in youth subcultures is rather limited. This might be again accounted for by the strength of much stronger factors, such as subculture affiliation or peer influence.

Parental bonding also hardly accounted for the higher frequency of fighting, truancy and low academic achievement in adolescents with a subculture affiliation. Interestingly, adjustment for maternal bonding increased the likelihood of fighting among adolescents affiliated with subcultures. This could be due to the presumption that the protective effect of parental bonding regarding fighting depends on the nature of the messages parents convey, in particular whether they support nonviolent solutions rather than fighting (Farrell et al., 2011). Our study showed that parental bonding does not play an important role regarding truancy in youth subcultures. It also does not seem to be important in regard to low academic achievement in youth subcultures, although previously it was found to be influential (Wondimu et al., 2010; Rothon et al., 2012). As parental bonding hardly affected our results (with early sexual initiation as the only exception), we can assume that its effect is rather limited when compared with other strong factors used in the analyses. Bonding with peers and with a subculture might be simply stronger and more important for adolescents of this age than bonding with parents; thus their effects are more distinct.

Parental bonding, especially by the mother, seems to be a protective factor regarding early sexual initiation in youth subcultures. This finding is in line with previous studies, which found parental bonding to be associated with a delay of sexual initiation (de Graaf et al., 2010; de Graaf et al., 2011).

Although substance abstinence of parents provides positive social modelling for adolescents and should thus have a protective effect on adolescents' substance use (Grayson, 2011; Walden, Iacono, & McGue, 2007), in our study substance abstinence of either parent hardly affected the association between subculture affiliation and substance use. We found only a slight effect of parental abstinence on drunkenness in boys and smoking in girls in youth subcultures. According to Grayson (2011), adolescents perceiving a supportive relationship with their parents (e.g. parental bonding) could be more likely to model the parents' health behaviour. In the case of youth subcultures, simply having a parent who provides a model of substance abstinence and with whom the adolescent has a close bond may not protect him/her from substance use (Grayson, 2011).

Our results suggest that part of the additional risk of problem behaviours in youth subcultures is due to a lack of protective factors, particularly of parental monitoring. It could be a consequence of parents' difficulties with monitoring and supervising more problematic adolescents, such as those affiliated with youth subcultures, effectively. It might also mean that parents who are unable to effectively monitor their children may have other related problems or characteristics (genetic, environmental, or both) as well (Jacobson & Crockett, 2000). Furthermore, a lack of protective factors might be an expression of rebellion against parents and against conforming with society, which is typical for adolescence (Nurmi, 2004) and is embodied in youth subcultures and also manifests itself as substance use (McCulloch, Stewart, & Lovegreen, 2006). Another explanation could be that the lack of protective factors leads to substance use, and these shared substance-use patterns bring

adolescents into shared youth subcultures via peer selection. Longitudinal research may show the degree to which either of these explanations holds.

8.2.4 Gender and socio-economic status as possible confounders

Boys reported an affiliation with one of the self-selected subcultures significantly more often than girls. The reason for this might be that boys are more likely to behave problematically (Currie, 2008); thus, they are more often affiliated with risky subcultures, where these forms of behaviours accumulate. Although we found some gender differences regarding drinking and cannabis use, these did not significantly account for the association between subculture affiliation and substance use. Only higher levels of cannabis use in boys compared with girls partially explained the association between subculture affiliation and cannabis use. Boys from our sample also fight more frequently and achieve lower at school than girls, which partially explains the association between subculture affiliation and frequent fighting or low academic achievement. Gender thus does not seem to play a role in regard to the strength of the association of smoking, drunkenness, truancy or early sexual initiation with being affiliated to youth subcultures, but boys are more likely to be engaged in both these behaviours and these subcultures.

We did not find any differences in family affluence between adolescents with a subculture affiliation and other adolescents. This is in line with Shildrick's and MacDonald's (2006) statement that youths from different social backgrounds can hold similar values shared in a particular subculture. However, there may be other constructs such as work/education-related identities, street-corner socialising, social segregation, leisure lives in neighbourhood-based peer groups, ethnic identities and/or articulation of racism in and between subcultures that have to be taken into account (Shildrick's & MacDonald 2006). Also intrapersonal or family factors may play a role in adolescents' substance use (Veselska et al., 2011; Tomcikova et al., 2011).

In our study we always adjusted the crude model for socioeconomic status, as represented by family affluence in the case of music-based youth subcultures or highest education level of parents in the case of Roma. This adjustment had mostly no or minor effect on the association between youth subculture affiliation and selected behaviours. Our findings are in line with the explanation of Shildrick and MacDonald (2006), who stated that youths from different social backgrounds can hold similar values shared in a particular subculture. Similarly, low socioeconomic position only partially explained the ethnic differences in drunkenness among Roma and non-Roma girls, which might be caused by an overlapping of ethnic categories with socioeconomic categories (Kolarcik et al., 2010).

8.2.4 Measuring subculture affiliation

We chose to relate problem behaviours directly to subculture affiliation rather than only to music preference. According to Selfhout et al. (2008), subculture affiliations of adolescents are relatively stable over time and they precede problem behaviour rather than result from it. The correlations between youth subculture and related music preference found in their study, which considered Hip-Hop and Heavy Metal, were less than 0.5 (Selfhout et al., 2008). Another study examined the association between music preference and smoking and drinking (Mulder et al., 2009). Compared with this study our criteria for dichotomisation were much stricter and our results

more distinct. We assume that the predictive power of subculture affiliation is better than that of music preference; e.g. adolescents can be fans of various music styles at the same time, but they can have only one subculture affiliation. This is indeed logical, as having more than one subculture affiliation at the same time would conflict with the subculture as a basis for a personal identity (Holme & Gronlund, 2005).

8.3 Strengths and limitations

The strengths of our study are that it concerns a large and representative sample of adolescents. Moreover, it comprises a considerable sample of a hard-to-reach population – Roma adolescents – and does so with a high response rate. It maps an important part of correlated problem behaviours in an important age period, when such behaviours might have a crucial impact on the successful future of adolescents in terms of academic and personal performance. Finally, our study takes into account the important peers and parents related risk and protective factors regarding the examined behaviours.

A limitation of this study could be that we had no data on subculture affiliation for 225 (14%) respondents. However, no differences, or merely trivial (although significant) differences, were found regarding all examined behaviours between those 225 adolescents and the remainder of the sample. As more boys than girls did not answer this question, a small difference was found regarding gender (Cohen's w = 0.37). This may have caused a slight underestimation of the proportion of adolescents with a subculture affiliation, as boys were affiliated more frequently. However, the small size of this group makes it unlikely that this had any effect on further findings.

Another limitation might be the cross-sectional design of our study, which did not allow us to explore causal pathways. Longitudinal research is needed for the latter. Next, relying fully on self-reporting might also be considered as a limitation, as we did not use any other methods, such as observation, or report by other informants, such as teachers, class-mates or parents, which might have shed more light on problem behaviours in youth subcultures. However, the self-reporting of behaviour such as substance use etc. has been previously shown to offer satisfying reliability (Del Boca & Noll, 2000). Moreover, our findings regarding problem behaviours are comparable to a previous HBSC study (Currie et al., 2008a); therefore, we do not expect this to be a source of considerable bias.

Regarding the method of data collection, a limitation of our study may also be that data from the Roma were collected via an interview, and data from non-Roma came via self-report questionnaires. Using questionnaires in both samples would lead to problems with literacy and understanding of the written items among Roma. On the other hand, using interviews in both samples would complicate the data collection among non-Roma adolescents, as they might perceive such an approach as awkward, intrusive or inappropriate for them (Kolarcik, 2012). We can assume that the data on alcohol obtained via an interview can be more affected by social desirability and fear of reprisal, because the level of privacy and anonymity is lower when compared with the administration of self-reported questionnaires (Brener et al., 2003). On the other hand, collecting data via an interview which was done by trained research assistants enabled us to cope with the potential illiteracy of Roma adolescents. Moreover, our findings found no influence of social desirability on either parental monitoring or peer influence or on their interaction with ethnicity.

Finally, another potential limitation regarding the Roma study is that we may have missed some Roma adolescents due to truancy. According to the Ministry of Education, rates of unexcused absences in 2005 were about 5 times higher among Roma than the average (Ministry of Education Slovak Republic, 2008). It seems likely that rates of drunkenness are higher and parental monitoring is weaker among these absentees, leading to some underestimation of the effects among Roma.

8.4 Implications

Our study has several important implications for practice and for further research.

8.4.1 Implications for practice

Our study shows that adolescents with a subculture affiliation are more likely than other adolescents to behave problematically, are more strongly influenced by their peers' behaviours and have a lack of protective factors. This implies that they deserve particular attention in prevention. On the other hand, we need to avoid stigmatising them; despite their subculture affiliation, a relatively high percentage of them does not behave problematically.

We found lower levels of drunkenness and peer influence and stronger parental monitoring in Roma compared with non-Roma. This implies that interventions should focus on maintaining this favourable situation in Roma and reducing rates in non-Roma. Reinforcing parental monitoring seems to be a logical route for this, though it may be hard to realise.

Preventive strategies could be targeted on adolescents with a subculture affiliation and their parents. Such strategies could comprise, for instance, interventions aimed at strengthening the skills of these adolescents to maintain a healthy lifestyle in a high-risk environment and improving the parenting skills of their parents, particularly regarding the monitoring of the adolscent's walk-abouts. The latter deserves particular attention. Parental monitoring seems to be the factor that provides the strongest protectionagainst problem behaviours in the youth subcultures cocnerned. This also holds for Roma adolescents, as no differences were found regarding the effects of parents and peers between Roma and non-Roma adolescents on adolescents' drunkenness.

Third, a more consistent research and development programme should be set up to reach high risk and difficult to reach groups, as described in this thesis. Currently, in Slovakia health promotion projects targeting adolescents are carried out under the patronage of both governmental and nongovernmental organizations, but they are rarely evaluated. Current health promotion is primarily implemented through interactive lectures, distribution of promotional and educational materials and traditional group-educational activities. Peer programmes, interactive creative workshops and interactive games are much less frequent. Special attention is paid only to health promotion of disadvantaged communities, which includes Roma communities, but neither of these has been evaluated. In general, the health promotion programmes that are currently offered to general youth in Slovakia should be evaluated regarding their appropriateness for youth subcultures and revised or accompanied accordingly. This could be part of more systematic research and development of health promotion among these groups.

Fourth, attractive healthier alternatives to spending free, unsupervised time with peers should be made available to a much larger extent. These should be introduced in a way which is acceptable for youth with such specific views and a tendency to reject almost everything. Currently, only a small number of projects, such as legal walls for graffiti, skate parks, break-dance schools, etc., are visible on the streets in Slovakia. Such activities must be easily accessible for adolescents from all socioeconomic backgrounds ideally free-of-charge and presented in an attractive way, with the core message: You can stay "cool" even when you are doing something meaningful, legal or socially acceptable.

8.4.2 Implications for future research

Our study shows that subculture affiliation is strongly associated with adolescents' problem behaviours. On the other hand, the majority of adolescents with a subculture affiliation do not behave problematically. The factors that protect them from problem behaviours may be of interest for future research. Such research should also focus on the way in which parental monitoring and peer influence affect adolescents' substance use among different ethnic groups such as Roma.

Our results imply that a common cause of problem behaviour in youth subcultures might be a lack of protective factors as a result of the rebellion against parents and against conforming to society, which is embodied in youth subcultures. Another explanation could be that the lack of protective factors leads to problem behaviour, which gathers adolescents in youth subcultures via peer selection. These causal pathways require further study, preferably with longitudinal designs.

Whether behaviours associated with subculture affiliation will dramatically affect adolescents' school career and valuable participation in societal life in adulthood remains an open question. Moreover, 15-year-olds are just at the beginning of their subcultural career and are only starting to experiment with the substances and discover the advantages and disadvantages of various types of behaviours. Differences in substance use or sexual behaviour between those who are affiliated with youth subcultures and those who are not might be more distinct at the age of 18 than it is in the present sample of 15-year-olds. This requires longitudinal research on the effect of youth subculture affiliation during adolescence and adult age. Such research may shed light on causal pathways as well. Preferably, such research will also employ other methods of data collection, such as observation or use of proxy informants to better understand the effects of subculture affiliation on adolescents' lives.

We found strong associations between youth subcultures and various behaviours, but this is not the only thing that subcultures represent in young peoples' lives. Another unexplored field is what exactly subculture affiliation entails in contemporary youth, what it means from their perspective and how adolescents from different subcultures see each other. Finally, the research and development programme targeting hard-to-reach, high-risk youth as described should preferably be evaluated. This comprises the effectiveness of various preventive programmes and campaigns regarding substance use, violent behaviour or risky sexual behaviour and whether these succeed in reaching youth subcultures or the hard-to-reach population of Roma adolescents.

8.5 Conclusion

According to our findings, youth subcultures (Hip-hop, Punk, Skinheads, Techno-scene, Metal and very specifically the Roma subculture) are a special target group for health promotion. Youth subculture affiliation is strongly associated with substance use, fighting, truancy, low academic achievement and early sexual initiation. A part of this risk is accounted for by strong peer influence and a lack of protective factors. Parental monitoring and peer influence also seem to affect adolescents' drunkenness regardless of ethnicity, but no significant difference was found in how these two factors contribute to the drunkenness of Roma and non Roma adolescents. The protective role of parental bonding and particularly parental monitoring (although limited in youth subcultures) regarding problem behaviours in adolescents with a subculture affiliation seems to be of high importance, as these behaviours seem to be mutually correlated and accumulated in youth subcultures. Our findings thus imply that preventive strategies should target adolescents with a subculture affiliation, as they are more prone to these problem behaviours.

References

Agbo-Quaye, S., & Robertson, T. (2010). The motorway to adulthood: Music preference as the sex and relationships roadmap. Sex Education: Sexuality, Society and Learning, 10(4), 359-371.

Ahmed, W., Minnaert, A., van der Werf, G., & Kuyper, H. (2010). Perceived social support and early adolescents' achievement: The mediational roles of motivational beliefs and emotions. Journal of Youth and Adolescence, 39, 36-46.

Allaste, A., & Lagerspetz, M. (2002). Recreational drug use in Estonia: The context of club culture. Contemporary Drug Problems, 29(1), 183.

Anderson, T. L., Kavanaugh, P. R., Rapp, L., & Daly, K. (2009). Variations in clubbers' substance use by individual and scene-level factors. Adicciones, 21(4), 289-308.

Arnett, J. (1992). The soundtrack of recklessness - musical preferences and reckless behavior among adolescents. Journal of Adolescent Research, 7(3), 313-331.

Bakagiannis, S., & Tarrant, M. (2006). Can music bring people together? Effects of shared musical preference on intergroup bias in adolescence. Scandinavian Journal of Psychology, 47(2), 129-136.

Baker, F., & Bor, W. (2008). Can music preference indicate mental health status in young people? Australasian Psychiatry, 16(4), 284-288.

Bannon, B. (2006). More than a feeling? Music genre preferences and school grades of American youth. International Communication Association.

Barnes, G. M., Hoffman, J. H., Welte, J. W., Farrell, M. P., & Dintcheff, B. A. (2006). Effects of parental monitoring and peer deviance on substance use and delinquency. Journal of Marriage & Family, 68(4), 1084-1104.

Barnes, G. M., Reifman, A. S., Farrell, M. P., & Dintcheff, B. A. (2000). The effects of parenting on the development of adolescent alcohol misuse: A six-wave latent growth model. Journal of Marriage & Family, 62(1), 175.

Beck, K.H., Boyle, J.R., and Boekeloo, B.O. (2004). Parental Monitoring and Adolescent Drinking: Results of a 12-month Follow-up. American Journal of Health Behavior, 28 (3), 272-279.

Bennett, A. (1999). Subcultures or neo-tribes? Rethinking the relationship between youth, style and musical taste. Sociology, 33(3), 599-617.

Bobakova, D. (2009). Relation of youth subcultures to drugs. (Master thesis, St. Elisabeth University of Health and Social Sciences, Bratislava, Institute of Social sciences and Health of the blessed P. P. Gojdic in Presov).

Bobakova, D., Madarasova Geckova, A., Reijneveld, S. A., & van Dijk, J. P. (2012). Subculture affiliation is associated with substance use of adolescents. European Addiction Research, 18(2): 91-96.

Bossarte, R.M. and Swahn, M.H. (2008). Interactions between race/ethnicity and psychosocial correlates of preteen alcohol use initiation among seventh grade students in an urban setting. Journal of Studies on Alcohol and Drugs, 69 (5), 660-665.

Brearley, M. (2001). The persecution of gypsies in Europe. American Behavioral Scientist, 45(4), 588.

Brener, N. D., Collins, J. L., Kann, L., Warren, C. W., Williams, B. I. (1995). Reliability of the Youth Risk Behavior Survey questionnaire. American Journal of Epidemiology, 141(6), 575-580.

Brener, N.D., Billy, J.O.G., and Grady, W.R. (2003). Assessment of factors affecting the validity of self-reported health-risk behavior among adolescents: evidence from the scientific literature. Journal of Adolescent Health, 33 (6), 436–458.

Brown, B. B., & Mounts, N. (1993). Parenting practices and peer group affiliation in adolescence. Child Development, 64(2), 467-482.

Childs, K. K., Sullivan, C. J., & Gulledge, L. M. (2011). Delinquent behavior across adolescence: Investigating the shifting salience of key criminological predictors. Deviant Behavior, 32(1), 64-100. doi: 10.1080/01639621003748498

Connell, C. M., Cook, E. C., Aklin, W. M., Vanderploeg, J. J., & Brex, R. A. (2011). Risk and protective factors associated with patterns of antisocial behavior among nonmetropolitan adolescents. Aggressive Behavior, 37(1), 98-106.

Csepe, P., Banoczy, J., Dombi, C., Forrai, J., Gyenes, M., & Dobrossy, L. (2007). Model program for screening oral cancers in the Roma population. Magyar Onkologia, 51(2), 95-101.

Currie, C., Gabhainn, S. N., Godeau, E., Roberts, C., Smith, R., et al. (2008a). Inequalities in young people's health : Health behaviour in school-aged children (HBSC) international report from the 2005/2006 survey. Report No.: 5.

Currie, C., Molcho, M., Boyce, W., Holstein, B., Torsheim, T., & Richter, M. (2008b). Researching health inequalities in adolescents: The development of the health behaviour in school-aged children (HBSC) family affluence scale. Social Science & Medicine, 66(6), 1429-1436.

Currie, C., Zanotti, C., Morgan, A., et al. Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen: WHO. Report No.: 6.

Del Boca, F. K., & Noll, J. A. (2000). Truth or consequences: The validity of self-report data in health services research on addictions. Addiction, 95(3), 347–360.

De Goede, I. H. A., Branje, S. J. T., Delsing, M. J. M. H., & Meeus, W. H. J. (2009). Linkages over time between adolescents' relationships with parents and friends. Journal of Youth and Adolescence, 38(10), 1304-1315.

de Graaf, H., Vanwesenbeeck, I., Woertman, L., Keijsers, L., Meijer, S., & Meeus, W. (2010). Parental support and monitoring and adolescents' sexual health: Testing two mediational models in a national Dutch sample. Journal of Youth & Adolescence, 39(2), 189-198.

de Graaf, H., Vanwesenbeeck, I., Woertman, L., & Meeus, W. (2011). Parenting and adolescents' sexual development in Western societies: A literature review. European Psychologist, 16(1), 21-31.

DiLorio, C., Dudley, W. N., Soet, J. E., & McCarty, F. (2004). Sexual possibility situations and sexual behaviors among young adolescents: The moderating role of protective factors. Journal of Adolescent Health, 35(6), 528.e11-20.

Dowd, J. J., & Dowd, L. A. (2003). The center holds: From subcultures to social worlds.

Teaching Sociology, 31(1), 20.

Durex Network Research Unit (2009). Face of global sex report, 2005 – 2009. Accessed 10 March 2013 from: <http://www.durexnetwork.org/en-GB/research>

Eitle, D. (2005). The moderating effects of peer substance use on the family structure–adolescent substance use association: Quantity versus quality of parenting. Addictive Behaviors, 30 (5), 963-980.

Erickson, E. H. (Ed.). (1980). Identity and the life cycle. New York: W. W. Norton.

Estevez, E., & Emler, N. R. (2010). A structural modelling approach to predict adolescent offending behaviour from family, school and community factors. European Journal on Criminal Policy & Research, 16(4), 207-220.

European Union Agency for Fundamental Rights (2009). EU-MIDIS - European Union Minorities and Discrimination Survey: Data in focus report 1: The Roma. Budapest: Elanders Hungary Kft.

Eurostat, 2013. Statistics. Accessed 10 March 2013 from: <http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database>

Farrell, A. D., Henry, D. B., Mays, S.A., & Schoeny, M. E. (2011). Parents as moderators of the impact of school norms and peer influences on aggression in middle school students. Child Development, 82(1), 146-161.

Fauth, R.C., Leventhal, T., and Brooks-Gunn, J. (2007). Welcome to the neighborhood? Long-term impacts of moving to low-poverty neighborhoods on poor children's and adolescents' outcomes. Journal of Research on Adolescence, 17 (2), 249-284.

Filadelfiova, J., Gerbery, D., and Skobla, D. (2007). Report on the living conditions of Roma in Slovakia. Bratislava: United Nations Development Programme Regional Bureau for Europe.

Flay, B. R. (2002). Positive youth development requires comprehensive health promotion programs. American Journal of Health Behavior, 26(6), 407-424.

Fleming, C. B., Catalano, R. F., Haggerty, K. P., & Abbott, R. D. (2010). Relationships between level and change in family, school, and peer factors during two periods of adolescence and problem behavior at age 19. Journal of Youth and Adolescence, 39(6), 670-682.

Fraga, S., Ramos, E., Dias, S., & Barros, H. (2011). Physical fighting among school-going Portuguese adolescents: Social and behavioural correlates. Preventive Medicine, 52(5), 401−404.

French, D.C., Dishion, T.J. (2003). Predictors of early initiation of sexual intercourse among high-risk adolescents. Journal of Early Adolescence, 23, 295-315.

Flook, L., & Fuligni, A. J. (2008). Family and school spillover in adolescents' daily lives. Child Development, 79(3), 776-787.

Forhan, S. E., Gottlieb, S. L., Sternberg, M. R., Xu, F., Datta, S. D., McQuillan, G. M., et al. (2009). Prevalence of sexually transmitted infections among female adolescents aged 14 to 19 in the United States. Pediatrics, 124(6), 1505-1512.

Fors, S.W., Crepaz, N., and Hayes, D.M. (1999). Key factors that protect against health risks in youth: further evidence. American Journal of Health Behavior, 23 (5), 368−380.

Forsyth, A. J. M., Barnard, M., & Mckeganey, N. P. (1997). Musical preference as an indicator of adolescent drug use. Addiction, 92(10), 1317-1325.

Fraga, S., Ramos, E., Dias, S., & Barros, H. (2011). Physical fighting among school-going Portuguese adolescents: Social and behavioural correlates. Preventive Medicine, 52(5), 401-404.

French, D. C., & Dishion, T. J. (2003). Predictors of early initiation of sexual intercourse among high-risk adolescents. Journal of Early Adolescence, 23(3), 295.

Fundacion Secretariado Gitano (FSG). (2009). Health and the Roma community: Analysis of the situation in Europe. Madrid: FSG.

Gerevich, J., Bacskai, E., Czobor, P., & Szabo, J. (2010). Substance use in Roma and non-Roma adolescents. The Journal of Nervous and Mental Disease, 198(6), 432-436.

Glaser, B., Shelton, K. H., & van den Bree M. B. (2010). The moderating role of close friends in the relationship between conduct problems and adolescent substance use. Journal of Adolescent Health, 47(1), 35-42.

Gourgoulianis, K.I., et al. (2000). Lung function in Gypsies in Greece. Archives of Environmental Health, 55, (6), 453-454.

Grayson, J. L. (2011). The relation between parent substance use and adolescent risk behaviors: A normative study of direct and indirect influences in the family environment. (PhD-Dissertation, Ohio University, USA),

Griffin, K.W., et al. (2000). Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth: Moderating effects of family structure and gender. Psychology of Addictive Behaviors, 14, (2), 174-184.

Hajioff, , S, & McKee, , M. (2000). The health of the Roma people: A review of the published literature. Journal of Epidemiology & Community Health, 54(11), 864-869.

Haller, M., Handley, E., Chassin, L., & Bountress, K. (2010). Developmental cascades: Linking adolescent substance use, affiliation with substance use promoting peers, and academic achievement to adult substance use disorders. Development and Psychopathology, 22(4), 899-916.

Hampton, M. R., McWatters, B., Jeffery, B., & Smith, P. (2005). Influence of teens' perceptions of parental disapproval and peer behaviour on their initiation of sexual intercourse. Canadian Journal of Human Sexuality, 14(3), 105-121.

Hawes, Z. C., Wellings, K., & Stephenson, J. (2010). First heterosexual intercourse in the United Kingdom: A review of the literature. Journal of Sex Research, 47(2), 137-152.

Haydon, A.A., Herring, A.H., Halpern, C.T. (2012). Associations between patterns of emerging sexual behavior and young adult reproductive health. Perspectives on Sexual and Reproductive Health, 44, 218-27.

Hays, R., Hayashi, T., and Stewart, A. (1989). A five-item measure of socially desirable response set. Educational and Psychological Measurement, 49 (3), 629−636.

Hebdige, D. (2003). Subculture: The meaning of style. London: Routledge London.

Heidmets, L., Samm, A., Sisask, M., Kõlves, K., Aasvee, K., & Värnik, A. (2010). Sexual behavior, depressive feelings, and suicidality among Estonian school children aged 13 to 15 years. Crisis, 31(3), 128-136.

Henry, K. L. (2007). Who's skipping school: Characteristics of truants in 8th and 10th grade. Journal of School Health, 77(1), 29-35.

Henry, K. L. (2010). Skipping school and using drugs: A brief report. Drugs: Education,

Prevention & Policy, 17(5), 650-657.

Hodkinson, P., & Deicke, W. (2007). Youth cultures: Scenes, subcultures and tribes. New York: Routledge (NY) New York, NY.

Holme, P., & Gronlund, A. (2005). Modelling the Dynamics of Youth Subcultures. Journal of Artificial Societies & Social Simulation, 8(3), 43-54.

Huang, D. Y. C., Murphy, D. A., & Hser, Y. (2011). Parental monitoring during early adolescence deters adolescent sexual initiation: Discrete-time survival mixture analysis. Journal of Child and Family Studies, 20(4), 511-520.

Huq, R. (2006). Beyond subculture: Pop, youth and identity in a postcolonial world. Abingdon: Routledge Abingdon, Oxfordshire, United Kingdom.

Hussong, A. M. (2002). Differentiating peer contexts and risk for adolescent substance use. Journal of Youth & Adolescence, 31(3), 207.

Jacobson, K. C., & Crockett, L. J. (2000). Parental monitoring and adolescent adjustment: An ecological perspective. Journal of Research on Adolescence, 10(1), 65-97.

Jaeger, M. M. (2011). Does cultural capital really affect academic achievement? New evidence from combined sibling and panel data. Sociology of Education, 84(4), 281-298.

Jessor, R. (1991). Risk behaviour in adolescence: A psychosocial framework for understanding and action. Journal of Adolescent Health, 12, 597-605.

Jessor, R. (1992). Risk behavior in adolescence: A psychosocial framework for understanding and action. Developmental Review, 12(4), 374-390.

Kaestle, C. E., Halpern, C. T., Miller, W. C., & Ford, C. A. (2005). Young age at first sexual intercourse and sexually transmitted infections in adolescents and young adults. American Journal of Epidemiology, 161(8), 774-780.

Kalina, O. (2012). Sexual risky behaviour among Slovak adolescents and young adults: social and psychological factors. Slovak Republic: Graduate School Kosice Institute for Society and Health, P J Safarik University. (PhD Dissertation, University of Groningen, the Netherlands; http://irs.ub.rug.nl/ppn/353218561).

Kalina, O., Madarasova Geckova, A., Jarcuska, P., Orosova, O., van Dijk, J. P., & Reijneveld, S. A. (2009). Psychological and behavioural factors associated with sexual risk behaviour among Slovak students. BMC Public Health, 9-15.

Kanapeckiene, V., Valinteliene, R., Berzanskyte, A., Kevalas, R., Supranowicz, P. (2009). Health of Roma children in Vilnius and Ventspils. Medicina (Kaunas), 45 (2), 153-161.

Karlsen, S., Rogers, A., and McCarthy, M. (1998). Social environment and substance misuse: A study of ethnic variations among inner London adolescents. Ethnicity & Health, 3 (4), 265–274.

Keijsers, L., Frijns, T., Branje, S. J. T., & Meeus, W. (2009). Developmental links of adolescent disclosure, parental solicitation, and control with delinquency: Moderation by parental support. Developmental Psychology, 45(5), 1314-1327.

Kistler, M. E., & Lee, M. J. (2010). Does exposure to sexual hip-hop music videos influence the sexual attitudes of college students? Mass Communication & Society, 13(1), 67-86.

Kolarcik, P., Madarasova Geckova, A., Orosova, O., van Dijk, J. P., Reijneveld, S. A.

(2010). Predictors of health-endangering behaviour among Roma and non-Roma adolescents in Slovakia by gender. Journal of Epidemiology & Community Health, 64 (12), 1043-1048.

Kolarcik, P. (2012). Self-reported health and health risky behaviour of Roma adolescents in Slovakia: a comparison with the non-Roma. Slovak Republic: Graduate School Kosice Institute for Society and Health, P J Safarik University. (PhD Dissertation, University of Groningen, the Netherlands; http://irs.ub.rug.nl/ppn/345878396).

Kosa, Z., Voko, Z., Szeles, G., Kardos, L., Kosa, K., et al. (2007). A comparative health survey of the inhabitants of roma settlements in Hungary. American Journal of Public Health, 97(5), 853-859.

Koupilová, I., Epstein, H., Holcik, J., Hajioff, S., McKee, M. (2001). Health needs of the Roma population in the Czech and Slovak Republics. Social Science & Medicine, 53 (9), 1191-1204.

Kristjansson, A. L., & Sigfusdottir, I. D. (2009). The role of parental support, parental monitoring, and time spent with parents in adolescent academic achievement in iceland: A structural model of gender differences. Scandinavian Journal of Educational Research, 53(5), 481-496.

Kristjansson, A. L., & Sigfusdottir, I. D. (2009). The role of parental support, parental monitoring, and time spent with parents in adolescent academic achievement in Iceland: A structural model of gender differences. Scandinavian Journal of Educational Research, 53(5), 481-496.

Kuntsche, E., Rehm, J., and Gmel, G. (2004). Characteristics of binge drinkers in Europe. Social Science & Medicine, 59 (1), 113-127.

Landstedt, E., & Gadin, K. (2011). Experiences of violence among adolescents: gender patterns in types, predators and associated psychological distress. International Journal of Public Health, 56, 419-427.

Latysheva, T. V. (2011). The essential nature and types of the youth subculture phenomenon. Russian Education & Society, 53(8), 73-88.

L'Engle, K. L., & Jackson, C. (2008). Socialization influences on early adolescents' cognitive susceptibility and transition to sexual intercourse. Journal of Research on Adolescence, 18(2), 353-378.

Liegeois, J., & Gheorghe, N. (1995). Roma/Gypsies : A European minority. London: Minority Rights Group.

Lim, M. S. C., Hellard, M. E., Hocking, J. S., & Aitken, C. K. (2008). A cross-sectional survey of young people attending a music festival: Associations between drug use and musical preference. Drug & Alcohol Review, 27(4), 439-441.

Lucio, R., Rapp-Paglicci, L., & Rowe, W. (2011). Developing an additive risk model for predicting academic index: School factors and academic achievement. Child & Adolescent Social Work Journal, 28(2), 153-173.

Maccoby, E. E. (1992). The role of parents in the socialization of children: An historical overview. Developmental Psychology, 28(6), 1006-1017.

Madarasova Geckova, A., Stewart, R., Van Dijk, J. P., Orosova, O., Groothoff, J. W., & Post, D. (2005). Influence of socio-economic status, parents and peers on smoking behaviour of adolescents. European Addiction Research, 11(4), 204-209.

Madkour, A., S., Farhat, T., Halpern, C., T., Godeau, E., & Gabhainn, S., N. (2010).

Early adolescent sexual initiation as a problem behavior: A comparative study of five nations. Journal of Adolescent Health, 47(4), 389-398.

Magnusson, C., & Trost, K. (2006). Girls experiencing sexual intercourse early: Could it play a part in reproductive health in middle adulthood? Journal of Psychosomatic Obstetrics & Gynecology, 27(4), 237-244.

Malacad, B.L., Hess, G.C. (2011). Sexual behaviour research using the survey method: A critique of the literature over the last six years. European Journal of Contraception and Reproductive Health Care, 16, 328-35.

Marcincin, A., & Marcincinova, L. (Eds.). (2009). The cost of non-inclusion: The key to integration is respect for diversity. Bratislava: Open Society Foundation.

Mayberry, M. L., Espelage, D. L., & Koenig, B. (2009). Multilevel modeling of direct effects and interactions of peers, parents, school, and community influences on adolescent substance use. Journal of Youth and Adolescence, 38(8), 1038-1049.

McCulloch, K., Stewart, A., & Lovegreen, N. (2006). 'We just hang out together': Youth cultures and social class. Journal of Youth Studies, 9(5), 539−556.

Miller, H. V. (2010). If your friends jumped off of a bridge, would you do it too? Delinquent peers and susceptibility to peer influence. Justice Quarterly, 27(4), 473-491.

Ministry of Education Slovak Republic, 2008. Education of Roma pupils including development of secondary and university education: Proposal of conception. Approved by the Government of the Slovak Republic by resolution No. 206 from April 2nd, 2008.

Miranda, D., & Claes, M. (2004). Rap music genres and deviant behaviors in French-Canadian adolescents. Journal of Youth & Adolescence, 33(2), 113-122.

Moore, R. (2005). Alternative to what? Subcultural capital and the commercialization of a music scene. Deviant Behavior, 26(3), 229-252. doi: 10.1080/01639620590905618

Mulder, J., ter Bogt, T. F. M., Raaijmakers, Q. A. W., et al. (2010) Is it the music? Peer substance use as a mediator of the link between music preferences and adolescent substance use. Journal of Adolescence, 33(3):387–94.

Mulder, J., ter Bogt, T. F. M., Raaijmakers, Q. A. W., Gabhainn, S. N., Monshouwer, K., & Vollebergh, W. A. M. (2009). The soundtrack of substance use: Music preference and adolescent smoking and drinking. Substance use & Misuse, 44(4), 514-531.

Mulder, J., ter Bogt, T. F. M., Raaijmakers, Q. A. W., & Vollebergh, W. A. M. (2007). Music taste groups and problem behavior. Journal of Youth and Adolescence, 36(3), 313-324.

Munoz-Laboy, M., Weinstein, H., & Parker, R. (2007). The hip-hop club scene: Gender, grinding and sex. Culture, Health & Sexuality, 9(6), 615-628.

Nansel, T. R., Overpeck, M. D., Haynie, D. L., Ruan, W. J., & Scheidt, P. C. (2003). Relationships between bullying and violence among US youth. Archives of Pediatrics & Adolescent Medicine, 157(4), 348-353.

Nicholas, S. (2009). Subcultures & countercultures. Research Starters Sociology, 04, 1-6.

North, A. C., & Hargreaves, D. J. (2006). Problem music and self-harming. Suicide & Life-Threatening Behavior, 36(5), 582-590.

Nurmi, J. (2004). Socialization and self-development. channeling, selection, adjustment, and reflection. In Lerner, R. M., Steinberg, L. D. (eds) Handbook of adolescent psychology, pp. 85. Hoboken, New Jersey: John Wiley & Sons, Inc.

Parker, G., Tupling, H., & Brown, L. B. (1979). A parental bonding instrument. British Journal of Medical Psychology, 52(1), 1-10.

Paul, C., Fitzjohn, J., Herbison, P., & Dickson, N. (2000). The determinants of sexual intercourse before age 16. Journal of Adolescent Health, 27(2), 136-147.

Pedersen, W. (2009). Cannabis use: Subcultural opposition or social marginality?: A population-based longitudinal study. Acta Sociologica, 52(2), 135-148.

Petraitis, J., Flay, B. R., & Miller, T. Q. (1995). Reviewing theories of adolescent substance use: Organizing pieces in the puzzle. Psychological Bulletin, 117(1), 67-86.

Popova, S., Rehm, J., Patra, J., Zatonski, W. (2007). Comparing alcohol consumption in Central and Eastern Europe to other European countries. Alcohol and Alcoholism, 42(5), 465-473.

Puporka, L., & Zadori, Z. (1999). The health status of Romas in Hungary. Budapest: Roma Press Center.

Raboteg-Saric, Z., Rijavec, M., & Brajsa-Zganec, A. (2001). The relation of parental practices and self-conceptions to young adolescent problem behaviors and substance use. Nordic Journal of Psychiatry, 55(3), 203-209.

Racz, J. (1992). Drug use by the members of youth subcultures in Hungary. The International Journal of the Addictions, 27(3), 289-300.

Reid, K. (2010). Finding strategic solutions to reduce truancy. Research in Education, (84), 1-18.

Reijneveld, S. A., Van Nieuwenhuijzen, M., Klein Velderman, M., Paulussen, T. G. W. M., Junger, M. (2012). Clustering of health and risk behaviour in immigrant and indigenous Dutch residents aged 19-40 years. International Journal of Public Health, 57(2), 351-61.

Richter, M., Vereecken, C. A., Boyce, W., Maes, L., Gabhainn, S. N., Currie, C. E. 2009. Parental occupation, family affluence and adolescent health behaviour in 28 countries. International Journal of Public Health, 54 (4), 203–212.

Richter, M. (2009). Risk behaviour in adolescence: Patterns, determinants and consequences. Germany: University of Bielefeld, School of Public health. (Habilitation).

Ringold, D., Orenstein, M. A., & Wilkens, E. (2005). Roma in an expanding Europe: Breaking the poverty cycle. Washington: World Bank.

Rosenthal, S. L., Von Ranson, ,K.M., Cotton, S., Biro, F. M., Mills, L., & Succop, P. A. (2001). Sexual initiation: Predictors and developmental trends. Sexually Transmitted Diseases, 28(9), 527-532.

Rosicova, K., Madarasova Geckova, A., Rosic, M., Speybroeck, N., Groothoff, J. W., van Dijk, J. P. (2011). Socioeconomic factors, ethnicity and alcohol-related mortality in regions in Slovakia. What might tree analysis add to our understanding? Health & Place, 17 (3), 701-709.

Rothon, C., Goodwin, L., & Stansfeld, S. (2012). Family social support, community 'social capital' and adolescents' mental health and educational outcomes: A longitudinal study in England. Social Psychiatry & Psychiatric Epidemiology, 47(5), 697–709.

Sandfort, T., Orr, M., Hirsch, J. S., & Santelli, J. (2008). Long-term health correlates of timing of sexual debut: Results from a national US study. American Journal of Public Health, 98(1), 155-161.

Schwartz, K. (2004). Music preferences, personality style, and developmental issues of adolescents. Journal of Youth Ministry, 3(1), 47-64.

Selfhout, M. H. W., Branje, S. J. T., ter Bogt, T. F. M., & Meeus, W. H. J. (2009). The role of music preferences in early adolescents' friendship formation and stability. Journal of Adolescence, 32(1), 95-107.

Selfhout, M. H. W., Delsing, M. J. M. H., ter Bogt, T. F. M., & Meeus, W. H. J. (2008). Heavy metal and hip-hop style preferences and externalizing problem behavior: A two-wave longitudinal study. Youth & Society, 39(4), 435-452.

Shildrick, T., MacDonald, R. (2006) In defence of subculture: Young people, leisure and social divisions. Journal of Youth Studies, 9(2):125–40.

Sieverding, J. A., Adler, N., Witt, S., & Ellen, J. (2005). The influence of parental monitoring on adolescent sexual initiation. Archives of Pediatrics & Adolescent Medicine, 159(8), 724-729.

Simi, P., Smith, L., & Reeser, A. M. S. (2008). From punk kids to public enemy number one. Deviant Behavior, 29(8), 753-774.

Simons-Morton, B. (2007). Social influences on adolescent substance use. American Journal of Health Behavior, 31(6), 672-684.

Simons-Morton, B., Chen, R. S. (2006) Over time relationships between early adolescent and peer substance use. Addictive Behavior, 31(7):1211-23.

Singer, S.I., Jou, S., & Levine, M. (1993). Heavy metal music preference, delinquent friends, social control, and delinquency. Journal of Research in Crime and Delinquency, 30(3), 317-329.

Slusna, L. (2010). Poverty and social exclusion in the WHO European Region: health systems respond. Copenhagen, WHO Regional Office for Europe.

Skaric-Juric, T., Klaric, I. M., Narancic, N. S., Drmic, S., Salihovi, M. P., et al. (2007). Trapped between tradition and transition--anthropological and epidemiological cross-sectional study of bayash Roma in Croatia. Croatian Medical Journal, 48(5), 708-719.

Smetana, J. G., & Daddis, C. (2002). Domain-specific antecedents of parental psychological control and monitoring: The role of parenting beliefs and practices. Child Development, 73(2), 563.

Solomon, B. S., Bradshaw, C. P., Wright, J., & Cheng, T. L. (2008). Youth and parental attitudes toward fighting. Journal of Interpersonal Violence, 23(4), 544-560.

Sosin, D. M., Koepsell, T. D., Rivara, F. P., & Mercy, J. A. (1995). Fighting as a marker for multiple problem behaviors in adolescents. Journal of Adolescent Health, 16(3), 209-215.

Springer, A. E., Sharma, S., de Guardado, A. M., Nava, F. V., & Kelder, S. H. (2006). Perceived parental monitoring and health risk behavior among public secondary school students in El Salvador. Thescientificworldjournal, 6, 1810-1814.

Stattin, H., Kerr, M. (2000). Parental monitoring: A reinterpretation. Child Developement, 71, 1072-85.

Sussman, S., Pokhrel, P., Ashmore, R. D., & Brown, B. B. (2007). Adolescent peer group

identification and characteristics: A review of the literature. Addictive Behaviors, 32(8), 1602-1627.

Swahn, M., Alemdar, M., Hamburger, M., & Donovan, J. (2009). Alcohol and violence among urban youth: Correlates of alcohol-related physical fighting versus other physical fighting. Conference Papers -- American Society of Criminology,1.

Tanner, J., Asbridge, M., & Wortley, S. (2009). Listening to rap: Cultures of crime, cultures of resistance. Social Forces, 88(2), 693-722.

Tarrant, M., MacKenzie, L., & Hewitt, L. A. (2006). Friendship group identification, multidimensional self-concept, and experience of developmental tasks in adolescence. Journal of Adolescence, 29(4), 627-640.

ter Bogt, T. F. M., Engels, R., Bogers, S., & Kloosterman, M. (2010). 'Shake it baby, shake it': Media preferences, sexual attitudes and gender stereotypes among adolescents. Sex Roles, 63(11), 844-859.

Tomcikova, Z. (2011). Parental divorce and adolescent excessive drinking: Role of parent - adolescent relationship and other social and psychosocial factors. Slovak Republic: Graduate School Kosice Institute for Society and Health, P J Safarik University. (PhD Dissertation, University of Groningen, the Netherlands; http://irs.ub.rug.nl/ppn/332352617).

Tomcikova, Z., Madarasova Geckova, A., Reijneveld, S. A., van Dijk, J. P. (2011) Parental divorce, adolescents' feelings toward parents and drunkenness in adolescents. European Addiction Research, 17(3):113–8.

Took, K. J., & Weiss, D. S. (1994). The relationship between heavy metal and rap music and adolescent turmoil: Real or artifact? Adolescence, 29(115), 613-21.

Valle, A., Roysamb, E., Sundby, J., & Klepp, K. I. (2009). Parental social position, body image, and other psychosocial determinants and first sexual intercourse among 15- and 16-year olds. Adolescence, 44(174), 479-498.

Vano, B., Jurcova, D., Meszaros, J., et al. (2012). Populacny vyvoj v Slovenskej republike 2011 (Population Development in the Slovak Republic 2011). Bratislava: INFOSTAT.

van der Rijt, G. A. J., d'Haenens, L. S. J., & van Straten, P. (2002). Smoking and other substance use as distinct features of teenage subcultures. The Journal of Adolescent Health, 31(5), 433-435.

Van Cleemput, P., Parry, G., Thomas, K., Peters, J., Cooper, C. (2007). Health-related beliefs and experiences of Gypsies and Travellers: a qualitative study. Journal of Epidemiology & Community Health, 61 (3), 205-210.

van Nieuwenhuijzen, M., Junger, M., Velderman, M. K., Wiefferink, K. H., Paulussen, T. W. G. M., Hox, J., & Reijneveld, S. A. (2009). Clustering of health-compromising behavior and delinquency in adolescents and adults in the Dutch population. Preventive Medicine, 48(6), 572-578.

van Tubergen, F. & Poortman, A. (2010). Adolescent alcohol use in the Netherlands: the role of ethnicity, ethnic intermarriage, and ethnic school composition. Ethnicity & Health, 15(1), 1-13.

Veenstra, R., Lindenberg, S., Tinga, F., & Ormel, J. (2010). Truancy in late elementary and early secondary education: The influence of social bonds and self-control--the TRAILS study. International Journal of Behavioral Development, 34(4), 302-310. doi: 10.1177/0165025409347987

Verkooijen K. T., de Vries N. K., Nielsen G. A. (2007). Youth crowds and substance use: The impact of perceived group norm and multiple group identification. Psychology of Addictive Behaviors, 21(1), 55-61.

Veselska, Z., Madarasova Geckova, A., Reijneveld, S. A., van Dijk, J. P. (2011) Self-efficacy, affectivity and smoking behavior in adolescence. European Addiction Research, 17(4):172-177.

Vivian, C. & Dundes, L. (2004). The crossroads of culture and health among the Roma (Gypsies). Journal of Nursing Scholarship, 36 (1), 86-91.

Walden, B., Iacono, W. G., & McGue, M. (2007). Trajectories of change in adolescent substance use and symptomatology: Impact of paternal and maternal substance use disorders. Psychology of Addictive Behaviors, 21(1), 35-43.

Wang, A., Peterson, G. W., & Morphey, L. K. (2009). Who is more important for early adolescents' developmental choices? Marriage & Family Review, 42(2), 95–122.

Wang, J., Simons-Morton, B. G., Farhart, T., Luk, J. W. (2009). Socio-demographic variability in adolescent substance use: Mediation by parents and peers. Prevention Science, 10 (4), 387–396.

Wang, M., Dishion, T. J., Stormshak, E. A., & Willett, J. B. (2011). Trajectories of family management practices and early adolescent behavioral outcomes. Developmental Psychology, 47(5), 1324-1341.

Wellings K., Collumbien M., Slaymaker E., et al. (2006). Sexual behaviour in context: a global perspective. Lancet, 368, 1706-28.

Wheeler, S. B. (2010). Effects of self-esteem and academic performance on adolescent decision-making: An examination of early sexual intercourse and illegal substance use. Journal of Adolescent Health, 47(6), 582-590.

Wills, T. A., & Yaeger, A. M. (2003). Family factors and adolescent substance use: Models and mechanisms. Current Directions in Psychological Science, 12(6), 222-226.

Zeman, C. L., Depken, D. E., & Senchina, D. S. (2003). Roma health issues: A review of the literature and discussion. Ethnicity & Health, 8(3), 223.

Zhang, S,. Benson, T., & Deng, X. (2000). A test-retest reliability assessment of the international self-report delinquency instrument. Journal of Criminal Justice, 28(4), 283-295.

Zhang, Y., Miller, L. E., & Harrison, K. (2008). The relationship between exposure to sexual music videos and young adults' sexual attitudes. Journal of Broadcasting & Electronic Media, 52(3), 368-386.

Summary

Lifestyle, salient appearance, musical taste, shared values and health behaviours of young people affiliated with youth subcultures are hardly explored although they are an inseparable part of adolescents' lives. The few pieces of the puzzle revealed by studies on youth subcultures indicate a variety of health endangering or antisocial behaviours to occur more frequently. Only a few studies on youth subcultures examined adolescents at the age when problem behaviour starts. The purpose of this study was to assess the associations between subculture affiliation (Hip-hop, Techno-scene, Metal, Punk, Skinheads, Roma) and problem behaviour (substance use, fighting, truancy, low academic achievement, and early sexual initiation) and whether peer- and parent-factors affect these associations.

Youth subcultures that can be found in Slovakia (Hip-Hop, Techno-scene, Metal, Punk, Skinheads, and Roma) are introduced in *Chapter 1*. The available evidence on youth subcultures and various problem behaviours (substance use, violent and school-related behaviour, and sexual behaviour) is presented. Furthermore, the purpose of this study is presented, research questions are formulated, and a study model is described.

Chapter 2 describes the design of the study, the data collection of two research samples used, as well as the measures and statistical analyses.

Chapter 3 explores the association between subculture affiliation (Hip-hop, Technoscene, Metal, Punk, Skinheads) and substance use (tobacco, alcohol and cannabis), and whether gender, family affluence and substance use by peers explain this association. Almost one half of adolescents reported having an affiliation with one of the selected youth subcultures. We found subculture affiliation to be significantly associated with substance use (smoking, drinking, drunkenness, and cannabis use). Only a part of this risk runs via gender, family affluence and peer substance use.

Chapter 4 examines whether protective factors such as parental monitoring, parental bonding and parental substance abstinence affect the association between subculture affiliation and adolescents' substance use. Adolescents with a subculture affiliation seem to be monitored less frequently than other adolescents what explains a part of their higher substance use. Parental bonding and substance abstinence of either parent hardly affected the association between subculture affiliation and substance use. The higher substance use among adolescents with a subculture affiliation is partially due to a low prevalence of protective factors among them.

Chapter 5 assesses the association between subculture affiliation and fighting, truancy and low academic achievement, and explores whether parental monitoring and parental bonding affect these associations. Adolescents with a subculture affiliation were significantly more likely than other adolescents to fight, skip school and achieve lower at school compared to other adolescents when controlling for gender and family affluence. A part of the association between fighting, truancy and lower academic achievement and youth subcultures is accounted for by a lack of parental bonding and parental monitoring.

Chapter 6 deals with the association between subculture affiliation and early sexual initiation, and explores whether gender, family affluence, peers' influence, lack

of parental bonding, and lack of parental monitoring explain this association. Youth subculture affiliation was found to be strongly associated with early sexual initiation. Peer influence explained almost a half of this association. Adding a lack of parental bonding and a lack of parental monitoring into the model further weakened the association of subculture affiliation with early sexual initiation, but this association remained statistically significant.

Chapter 7 focuses on the Roma subculture and explores differences in the levels of peer and parental influence and their effects on drunkenness between Roma and non-Roma adolescents. Roma adolescents reported more parental monitoring and less peer influence compared to non-Roma. Less parental monitoring contributed to the probability of drunkenness only among girls. This effect of parental monitoring was not modified by ethnicity. Peer influence affected drunkenness in both boys and girls, but there was no significant interaction of ethnicity with peer influence.

In *Chapter 8* we discuss the main findings of the previous chapters in context of existing knowledge. We found youth subcultures to be associated with various problem behaviours what seems to be rather hazardous regarding successful adulthood and health-related outcomes. These findings are in line with previous studies on subcultures. Our study showed adolescents with subculture affiliation to be strongly influenced by peers regarding their behaviour. Contrarily, the role of common protective factors in youth subcultures seems to be rather limited. Although we found some gender differences these had no (substance use except of cannabis use, truancy and early sexual initiation) or minor (cannabis use, frequent fighting and low academic achievement) effect on the association between youth subculture affiliation and selected behaviours. Roma subculture differs from music-based subcultures as we found lower levels of drunkenness, peer influence and stronger parental monitoring in Roma compared to non-Roma.

Preventive strategies could be targeted toward adolescents with a subculture affiliation and their parents as they are in higher risk of problem behaviour. Our results imply that the common cause of problem behaviour in youth subcultures might be a lack of protective factors as result of rebellion against parents and against conforming to the society, which is embodied in youth subcultures. Another explanation could be that the lack of protective factors leads to problem behaviour which gathers adolescents in youth subcultures via peer selection. These causal pathways should be relevant for future research.

Samenvatting

Van jongeren die bij een jeugdsubcultuur horen zijn de leefstijl, wijze van presentatie, muziek smaak, gedeelde waarden en gezondheidsgedrag nauwelijks onderzocht, hoewel deze een onlosmakelijk onderdeel van hun leven vormen. De paar stukjes van de puzzel die er zijn vanwege een aantal studies over jeugdsubculturen doen vermoeden dat een scala aan gezondheidsschadelijk of antisociaal gedrag meer voorkomt. Slechts enkele onderzoeken over de jeugdsubculturen onderzochten adolescenten op de leeftijd waar probleemgedrag begint. Het doel van dit onderzoek was om de verbanden tussen het horen bij een subcultuur (Hip-hop, Techno-scene, Metal, Punk, Skinheads, Roma) en probleemgedrag (middelengebruik, vechten, spijbelen, lage schoolprestaties, en vroege seksuele initiatie) te onderzoeken en na te gaan of peer- en ouder-factoren van invloed zijn op deze verbanden.

Jeugdsubculturen in Slowakije (Hip-Hop, Techno-scene, Metal, Punk, Skinheads, en Roma) worden beschreven in *Hoofdstuk 1.* De beschikbare gegevens over de jeugdsubculturen en diverse probleemgedragingen (middelengebruik, gewelddadig en school-gerelateerde gedrag, en seksueel gedrag) worden besproken. Daarnaast wordt het doel van dit onderzoek gepresenteerd, onderzoeksvragen geformuleerd en wordt een onderzoeksmodel beschreven.

In *Hoofdstuk 2* worden de opzet van het onderzoek, de gegevensverzameling van de twee gebruikte steekproeven, alsmede de meetinstrumenten en de statistische analyses beschreven.

In *Hoofdstuk 3* wordt het verband tussen het horen bij een subcultuur (Hip-hop, Technoscene, Metal, Punk, Skinheads) en middelengebruik (tabak, alcohol en cannabis) onderzocht, en of geslacht, de welvaart van het gezin en middelengebruik door peers bijdragen aan het verklaren van dit verband. Bijna de helft van de jongeren gaf aan dat zij bij één van de geselecteerde jeugdsubculturen horen. We vonden dat er tussen het horen bij een subcultuur en middelengebruik (roken, drinken, dronkenschap en cannabisgebruik) een significant verband bestond. Slechts een deel van dit risico kan worden verklaard door geslacht, de welvaart van het gezin en middelengebruik van peers.

In *Hoofdstuk 4* wordt onderzocht of beschermende factoren, zoals controle door ouders, hechting met ouders en niet-gebruik van middelen door ouders van invloed zijn op het verband tussen het horen bij een subcultuur en middelengebruik door jongeren. Jongeren die horen bij een subcultuur lijken minder frequent te worden gecontroleerd dan andere jongeren wat deels hun hogere middelengebruik zou kunnen verklaren. Hechting met ouders en niet-gebruik van middelen door de ouders bleken nauwelijks van invloed op het verband tussen het horen bij een subcultuur en middelengebruik. Het hogere middelengebruik bij jongeren die horen bij een subcultuur is gedeeltelijk te wijten aan een lage prevalentie van beschermende factoren.

In *Hoofdstuk 5* wordt het verband onderzocht tussen het horen bij een subcultuur en vechten, spijbelen en lage schoolprestaties, en verder of ouderlijk toezicht en ouderlijke hechting van invloed zijn op deze verbanden. Jongeren die horen bij een subcultuur hadden significant meer kans om te vechten, te spijbelen

en slechter te presteren op school in vergelijking met andere jongeren na correctie voor geslacht en de welvaart van het gezin. Een deel van het verband tussen vechten, spijbelen en lagere schoolprestaties en het horen van jongeren bij een subcultuur wordt verklaard door een gebrek aan hechting met de ouders en controle door de ouders.

Hoofdstuk 6 gaat over het verband tussen het horen bij een subcultuur en vroege seksuele initiatie, en laat verder zien of geslacht, de welvaart van het gezin, de invloed van peers, een gebrek aan hechting aan ouders, en het ontbreken van ouderlijk toezicht dit verband kunnen verklaren. Er bleek een sterk verband te zijn tussen het horen bij een jeugdsubcultuur en vroege seksuele initiatie. De invloed van peers verklaarde bijna de helft van dit verband. Het toevoegen van een gebrek aan hechting aan ouders en een gebrek aan ouderlijk toezicht aan het model verzwakte het verband tussen het horen bij een subcultuur en vroege seksuele initiatie verder, maar het bleef statistisch significant.

Hoofdstuk 7 richt zich op de Roma subcultuur en verkent de verschillen wat betreft peer en invloed van ouders en de effecten daarvan op dronkenschap tussen Roma en niet-Roma jongeren. Roma jongeren rapporteerden meer ouderlijk toezicht en minder peer-invloed in vergelijking met niet-Roma jongeren. Minder ouderlijk toezicht droeg alleen bij aan de kans op dronkenschap bij meisjes. Dit effect van ouderlijk toezicht werd niet beïnvloed door etniciteit. Het drinkgedrag van peers was van invloed op dronkenschap bij zowel jongens als meisjes, maar er was geen significante interactie van etniciteit met de invloed van peers.

In *Hoofdstuk 8* worden de belangrijkste bevindingen uit de voorgaande hoofdstukken in de context van de bestaande kennis besproken. We vonden een verband tussen het horen bij een jeugdsubcultuur en verschillende probleemgedragingen wat een bedreiging lijkt te zijn voor een succesvolle volwassenheid en gezondheid-gerelateerde uitkomsten. Deze bevindingen zijn in lijn met eerdere studies over subculturen. Ons onderzoek toonde aan dat het gedrag van jongeren die bij een jeugdsubcultuur horen sterk wordt beïnvloed door leeftijdsgenoten. In tegenstelling lijkt de rol van algemene beschermende factoren bij jeugdsubculturen eerder beperkt. Hoewel we een aantal geslachtsgebonden verschillen vonden hadden deze geen (middelengebruik behalve cannabisgebruik, spijbelen en vroege seksuele initiatie) of een beperkt (het gebruik van cannabis, geregeld vechten en lage schoolprestaties) effect op het verband tussen het horen bij een jeugdsubcultuur en geselecteerde gedragingen. De Roma subcultuur verschilt van de op muziek gebaseerde subculturen en we vonden minder dronkenschap en peer invloed maar ook een sterker ouderlijk toezicht bij Roma jongeren in vergelijking met niet-Roma.

Preventieve strategieën kunnen worden gericht op jongeren die horen bij een subcultuur en hun ouders omdat ze een hoger risico op probleemgedrag hebben. Onze resultaten impliceren dat de meest voorkomende oorzaak van probleemgedrag bij jongeren die horen bij een subcultuur een gebrek aan beschermende factoren is. Dat kan zijn het resultaat van rebellie tegen de ouders zijn en tegen het voldoen van de eisen die de samenleving stelt, een rebellie die wordt belichaamd in jeugdsubculturen. Een andere verklaring zou kunnen zijn dat het ontbreken van beschermende factoren leidt tot probleemgedrag dat jongeren via peer selectie in jeugdsubculturen bijeenbrengt. Het verder verkennen van deze causale paden moet mede richting geven aan toekomstig onderzoek.

Zhrnutie

Životný štýl, charakteristický vzhľad, hudobný vkus, zdieľané hodnoty a spôsob so zdravím súvisiaceho správania sa mladých ľudí inklinujúcich k subkultúram mláeže sú málo prebádané navzdory tomu, že sú neoddeliteľnou súčasťou života adolescentov. Tých pár kúskov puzzle odhalených štúdiami o subkultúrach mládeže naznačuje častejší výskyt širokej palety zdravie ohrozujúceho alebo antisociálneho správania. Iba pár štúdií subkultúr mládeže skúmalo adolescentov vo veku, kedy sa začína prejavovať problémové správanie. Zámerom tejto štúdie bolo posúdiť vzťah medzi subkultúrami mládeže (Hip-hop, Techno-scéna, Metal, Punk, Skinheads, Rómovia) a problémovým správaním (užívanie návykových látok, bitky, záškoláctvo, slabý školský výkon, včasná sexuálna skúsenosť) a ako faktory súvisiace s rovesníkmi a rodičmi ovplyvňujú tento vzťah.

Subkultúry mládeže vyskytujúce sa na Slovensku su predstavené v *Kapitole 1.* Prezentované sú dostupné dôkazy o subkultúrach mládeže a rozličné problémové správanie (užívanie návykových látok, násilné a so školou súvisiace správanie, sexuálne správanie). Ďalej je prezentovaný účel tejto štúdie, sú formulované výskumné otázky a je popísaný model štúdie.

Kapitola 2 popisuje dizajn štúdie a zber údajov dvoch použitých výskumných vzoriek ako aj merania a štatistické analýzy.

Kapitola 3 sa zaoberá vzťahom medzi príslušnosťou k subkultúram mládeže (Hip-hop, Techno-scéna, Metal, Punk, Skinheads) a užívaním návykových látok (tabak, alkohol, kanabis) a či pohlavie, rodinný blahobyt a užívanie návykových látok rovesníkmi vysvetľuje tento vzťah. Takmer polovica adolescentov uviedla príslušnost k jednej z vybraných subkultúr mládeže. Zistili sme, že príslušnosť k subkultúram mládeže je významne spojená s užívaním návykových látok (fajčenie, pitie, opitosť, užívanie kanabisu). Iba časť tohto rizika je spôsobená pohlavím, materiálnym zabezpečením rodiny a užívaním návykových látok rovesníkmi.

Kapitola 4 skúma, či protektívne faktory ako rodičvská kontrola, rodičovská opora a abstinencia rodičov ovplyvnujú vzťah mezdi príslušnosťou k subkultúram mládeže a užívanim návykových látok adolescentmi. Zdá sa, že sú adolescenti s príslušnosťoou k subkultúram mládeže kontrolovaní menej často ako ostatní adolescenti, čo čiatočne vysvetľuje ich častejšie užívanie návykových látok. Rodičovská opora ani abstinencia ktoréhokoľvek z rodičov sotva ovplyvnili vzťah mezdi príslušnosťou k subkultúram mládeže a užívanim návykových látok. Častejšie užívanie návykových látok u adolescentov s príslušnosťou k subkultúram mládeže je čiastočne spôsobené nižším výskytom protektívnych faktorov.

Kapitola 5 hodnotí vzťah medzi príslušnosťou k subkultúram a bitkami, záškoláctvom, a zhoršeným prospechom v škole a skúma, či rodičovská kontrola a rodičovská opora ovplyvňujú tento vzťah. Adolescenti s príslušnosťou k subkultúram mali významne vyššiu pravdepodobnosť bitiek, záškoláctva a zhoršeného prospechu v škole ako ostatní adolescenti pri kontrolovaní pohlavia a rodinného blahobytu. Časť vzťahu medzi bitkami, záškoláctvom a zhoršeným prospechom a príslušnosťou k subkultúram je vysvetlená nedostatkom rodičovskej opory a rodičovskej kontroly.

Kapitola 6 sa zaoberá vzťahom medzi príslušnosťou k subkultúram a včasnou

sexuálnou skúsenosťou a skúma, či pohlavie, rodinný blahobyt, vplyv rovesníkov, nedostatok rodičovskej opory a rodičovskej kontroly vysvetľuje tento vzťah. Zistilo sa, že príslušnosť k subkultúram mládeže je silne spojená so skorou sexuálnou skúsenosťou. Vlyv rovesníkov vysvetľuje takmer polovicu tohto vzťahu. Pridanie nedostatku rodičovskej opory a rodičovskej kontroly do modelu ďalej oslabilo vzťah medzi príslušnosťou k subkultúram a včasnou sexuálnou skúsenosťou, ale tento vzťah zostal naďalej štatisticky významný.

Kapitola 7 je zameraná na subkultúru Rómov a skúma rozdiely medzi rómskymi nerómskymi adolescentmi v miere vplyvu rovesníkov a rodičov a ich efektu na opitosť. Rómski adolescenti uviedli vyššiu mieru rodičovskej kontroly a nižšiu mieru vplyvu rovesníkov v porovnaní s nerómami. Nižšia rodičovská kontrola sa podieľala na pravdepodobnosti opitosti len u dievčat. Tento efekt rodičovskej kontroly nebol modifikovaný etnicitou. Vplyv rovesníkov ovplyvnil opitosť aj u dievčat aj u jchlapcov, ale medzi etnicitou a vplyvom rovesníkov nebola žiadna signifikantná interakcia.

V *Kapitole 8* sme prejednali hlavné zistenia z predošlých kapitol v kontexte existujúceho poznania. Zistili sme, že subkultúry mládeže sú spojené s rôznym problémovým správaním, čo sa zdá byť prinajmenšom riskantné v súvislosti s úspešnou dolspelosťou a so zdravím súvisiacimi výsledkami. Tieto zistenia su v sulade s predošlými štúdiami subkultúr mládeže. Naša štúdia preukázala, že čo sa týka správania sú adolescenti s príslušnosťou k subkultúram veľmi ovplyvniteľní rovesníkmi. Naopak, úloha obvyklých protektívnych faktorov sa zdá byť v subkultúrach mládeže pomerne obmedzená. Aj keď sme našli nejaké rodové rozdiely, tieto nemali žiaden (užívanie návykových látok okrem kanabisu, záškoláctvo a nvčasná sexuálna skúsenosť) alebo mali len malý (užívanie kanabisu, bitky a zhoršený prospech v škole) vplyv na vzťah medzi subkultúrami mládeže a vybranými typmi správania sa. Rómska subkultúra sa odlišuje od subkultúr založených na hudbe, nakoľko sme u Rómov zistili nižší úroveň opitosti, vplyvu rovesníkov a silnejšiu rodičovskú kontrolu v porovnaní s Nerómami.

Preventívne stratégie by mohli byť zamerané na adolescentov s príslušnosťou k subkultúram a ich rodičov, nakoľko je u nich väčšie riziko výskytu problémového správania. Naše výsledky naznačujú, obvyklými príčinami problémového správania v subkultúrach mládeže môžu byť nedostatok protektívnych faktorov ako výsledok rebélie proti rodičom a proti prispôsobovaniu sa spoločnosti, ktorá je ztelesnená v subkultúrach mládeže. Ďalšie vysvetlenie by mohlo byť, že nedostatok protektívnych faktorov vedie k problémovému správaniu, ktoré spája adolescentov v subkultúrach mládeže skrze výber rovesníkov. Tieto kauzálne dráhy by mali byť dôležité pre budúci výskum.

Acknowledgements

I would like to express my gratitude to all those people who made my study possible and contributed in some way to this thesis. This work would hardly have been possible without them and their help, support and encouragement.

I would like to thank to all of the nice people from the University Medical Centre Groningen I met during my stays there, especially to my supervisors:

- *Prof. Sijmen A. Reijneveld* – for his valuable professional knowledge and the opinions he passed to me through cooperation on our articles. It was an honour and a pleasure to cooperate with him.
- *Assoc. Prof. Jitse P. van Dijk* – for his friendly, caring attitude and the support he invested in me and our international cooperation. I will never forget his extraordinary solicitude when I was in the Netherlands.

I am also very thankful to many people in Slovakia, particularly from the Safarik University in Kosice, especially to:

- *Assoc. Prof. Andrea Madarasova Geckova* – for the amazing, kind and friendly atmosphere full of science, challenges and motivation she was able to create for me and my colleagues and for her trust in my passion for youth subcultures. She truly is a special person, scientist, supervisor and friend.
- The board of the Medical Faculty for creating excellent settings for the work of our research team, especially to the D*ean of the Medical Faculty Prof. Leonard Siegfried* and the *Vice-dean Prof. Pavol Jarcuska*.
- *Ivana Borysova, Martina Sukenikova, Jarmila Fristikova, Nikol Hendrichovska* and *Andrea Majerova* for their hard administrative and organisational work. I would have never been able to handle it alone. Thanks to their care I was able to focus on my job.
- *Peter Kolarcik, Zuzana Dankulincova-Veselska, Martina Mergescikova, Martina Behanova, Inga Babinska, Jarka Kopcakova, Pavol Mikula, Marika Sarkova, Ferdinand Salonna* and many more great people from other institutions – all of my colleagues and research fellows who filled my academic life with support and fun.
- *Dr. Daniel Klein* for his help with statistics.
- *David McLean* for correcting the English in my papers.

Also, I would like to thank P*rof. Dr. T.F.M. ter Bogt*, *Prof. Dr. A. Dijkstra* and *Prof. Dr. A.V. Ranchor* – members of the Manuscript Committee for the time they spent on evaluating my thesis.

Finally, I would like to thank to the most important people in my life – my family – because without them none of this would have been possible. My biggest thank goes to my parents for their love, enthusiasm and never-ending support, particularly to my mother who took my newborn son for long walks in the wind and snow so I could spend a few hours finalising this thesis. Last, but definitely not least, I want to thank my partner *Rasto* for all the love, laughter and support he gave me; he made me strong enough to fight all the obstacles of pregnancy and delivering our beloved son Tomi while working on this thesis. I love you all so much.

About the author

Daniela Bobáková was born on July 10th, 1984, in Košice, Slovakia. After secondary school, she studied social work at the St. Elisabeth University of Health and Social Sciences, Institute of Social Sciences and Health of the blessed P. P. Gojdic in Presov. Her Master thesis dealt with the substance use in youth subcultures. During the second half of her study she worked on a temporary basis in the state service as an Independent Consultant for the Social and Family Bureau, Social Division, at the Department of Social and Legal Child Protection. Her duties included consultancy; representing juveniles and teenagers in legal proceedings in the matter of education, nurturing, orders of constitutional custody and the criminal acts of juveniles; bringing statements and motions to the court; cooperating and dealing with the police, the prosecutor's office, the municipality and non-profit associations; as well as as an administrative welfare officer for children and adults in cooperation with the probation office of the court. During this period she became experienced in working with the Roma community. After her university study, she started working as a researcher at PJ Safarik University in Kosice, Slovak Republic, in September 2010 and at the same time she started her PhD studies at University of Groningen, The Netherlands. During her studies she focused on the social and psycho-social determinants of adolescents' health and health-related behaviour, in particular on the role of subculture affiliation, but also on the health of the Roma population. She participated in research projects focused on the social determinants of health in school-aged children and risk factors for viral hepatitis B/C and metabolic syndrome among the population living in Roma settlements – HepaMeta. Since 2009 she has been participating in the Health Behaviour in School-aged Children (HBSC) study, a multinational project conducted in collaboration with the World Health Organization. She is a member of the HBSC national team and member of HBSC Peer culture focus group. At present she is working as a researcher at the Department of Health Psychology, Institute of Public Health, Medical Faculty, PJ Safarik University in Kosice. Her professional interest focuses on social and psycho-social determinants of adolescents' health and health-related behaviour, particularly in youth subcultures, and the health of the Roma population.

Graduate School Kosice Institute for Society and Health (KISH) and previous dissertations

The Graduate School Kosice Institute for Society and Health (KISH) was established in 2004 and is hosted by the Medical Faculty of Pavol Jozef Safarik University in Kosice, Slovakia. KISH researchers originate from the Medical Faculty, the University Hospital and other hospitals as well as the Faculty of Arts. Its research concentrates on public health, health psychology, epidemiology and medical sociology. The interdisciplinary research programs focus on Youth and Health and on Chronic Disease.

The Graduate School KISH is collaborating closely with the Department of Community and Occupational Health, University Medical Center Groningen, University of Groningen, The Netherlands.

More information regarding the institute can be obtained from www.kish.sk.

Previous dissertations from the Graduate School KISH:

Benka J (2012) Living with Rheumatoid Arthritis: do personal and social resources make a difference?
Supervisor: Prof. Dr. JW Groothoff, Prof. Dr. JJL van der Klink
Co-Supervisors: Assoc. Prof. Dr. JP van Dijk, Dr. I Nagyova

K**alina O (2012)** Sexual risky behaviour among Slovak adolescents and young adults: social an psychological factors
Supervisor: Prof. Dr. SA Reijneveld
Co-Supervisors: Assoc. Prof. Dr. JP van Dijk, Assoc. Prof. A Madarasova Geckova

Salonna F (2012) Health inequalities among Slovak adolescents over time
Supervisors: Prof. Dr. SA Reijneveld, Prof. Dr. JW Groothoff
Co-Supervisors: Assoc. Prof. Dr. JP van Dijk, Assoc. Prof. A Madarasova Geckova

Kolarcik P (2012) Self-reported health and health risky behaviour of Roma adolescents in Slovakia. A comparison with the non-Roma
Supervisor: Prof. Dr. SA Reijneveld
Co-Supervisors: Assoc. Prof. Dr. JP van Dijk, Assoc. Prof. A Madarasova Geckova

Tomcikova Z (2011) Parental divorce and adolescent excessive drinking: Role of parent – adolescent relationship and other social and psychosocial factors
Supervisor: Prof. Dr. SA Reijneveld
Co-Supervisors: Assoc. Prof. Dr. JP van Dijk, Assoc. Prof. A Madarasova Geckova

Veselska Z (2010) Perception of self and health-related behavior in adolescence
Supervisor: Prof. Dr. SA Reijneveld
Co-Supervisors: Assoc. Prof. Dr. JP van Dijk, Assoc. Prof. A Madarasova Geckova

Dubayova T (2010) Parkinson's disease – psychological determinants of quality of life
Supervisor: Prof. Dr. JW Groothoff
Co-Supervisors: Assoc. Prof. Dr. JP van Dijk, Dr. I Nagyova, Assoc. Prof. Dr. Z Gdovinova, Dr. LJ Middel

Sarkova M (2010) Psychological well-being and self-esteem in Slovak adolescents
Supervisor: prof dr WJA van den Heuvel
Co-Supervisors: Assoc. Prof. Dr. JP van Dijk, Dr. Z. Katreniakova, Assoc. Prof. A Madarasova Geckova

Krokavcova M (2009) Perceived Health Status in Multiple Sclerosis Patients
Supervisor: Prof. Dr. JW Groothoff
Co-Supervisors: Assoc. Prof. Dr. JP van Dijk, Dr. I Nagyova, Assoc. Prof. Dr. Z Gdovinova, Dr. LJ Middel

Havlikova E (2008) Fatigue, mood disorders and sleep problems in patients with Parkinson's disease
Supervisor: Prof. Dr. JW Groothoff
Co-Supervisors: Assoc. Prof. Dr. JP van Dijk, Dr. J Rosenberger, Assoc. Prof. Dr. Z Gdovinova, Dr. LJ Middel

Zuzana Skodova (2008) Coronary heart disease from a psychosocial perspective: socioeconomic and ethnic inequalities among Slovak patients
Supervisor: Prof. Dr. SA Reijneveld
Co-Supervisors: Assoc. Prof. Dr. JP van Dijk, Dr. I Nagyova, Dr. LJ Middel, Dr. M Studencan

R**osenberg J (2006)** Perceived health status after kidney transplantation
Supervisors: Prof. Dr. JW Groothoff, Prof. Dr. WJA van den Heuvel
Co-Supervisors: Dr. JP van Dijk, Dr. R Roland

Sleskova M (2006) Unemployment and the health of Slovak adolescents
Supervisors: Prof. Dr. SA Reijneveld, Prof. Dr. JW Groothoff
Co- Supervisors: Dr. JP van Dijk, Dr. A Madarasova Geckova

Nagyova I (2005) Self-rated health and quality of life in Slovak rheumatoid arthritis patients
Supervisors: Prof. Dr. WJA van den Heuvel
Co-Supervisor: Dr. JP van Dijk

Geckova A (2002) Inequality in health among Slovak adolescents
Supervisors: Prof. Dr. D Post, Prof. Dr. JW Groothoff
Co-Supervisor: Dr. JP van Dijk

Groningen Graduate School of Medical Sciences – Research Institute SHARE and previous dissertations

This thesis is published within the **Research Institute SHARE** of the Graduate School of
This thesis is published within the Research Institute SHARE of the Graduate School of
Medical Sciences (embedded in the University Medical Center Groningen / University of Groningen). More recent theses can be found in the list below.

Further information regarding the institute and its research can be obtained from our internetsite: www.rug.nl/share.

Previous dissertations from the program Public Health ((co-)supervisors are between brackets):

2013

MeijerA. The forest through the trees; investigating depression in patients with cancer and patients with myocardial infarction using systematic reviews and meta-analytic techniques
(prof P de Jonge, dr HJ Conradi, dr BD Thombs)

Kuchenbecker WKH. Obesity and female infertility
(prof JA Land, prof BHR Wolffenbuttel, dr A Hoek, dr H Groen)

Rozenbaum MH. Costs and effectiveness of extended vaccination strategies against pertussis and pneumococcal disease
(prof MJ Postma, prof E Hak)

Kingma EM. Intelligence and functional somatic symptoms and syndromes
(prof JGM Rosmalen, prof J Ormel, prof P de Jonge)

Kedde JH. Sexual health of people with disability and chronic illness
(prof HBM van de Wiel, prof WCM Weijmar Schultz)

Horst PGJ ter. Clinical pharmacology of antidepressants during pregnancy
(prof B Wilffert, prof LTW de Jong-van den Berg)

Sinha R. Adjustment to amputation and artificial limbs, and quality of life in lower limb amputees
(prof WJA van den Heuvel, prof P Arokiasamy, dr JP van Dijk)

2012

Pechlivanoglou P. Applying and extending mixed-effects models in health in health economics and outcomes research
(prof MP Postma, prof JE Wieringa, dr HH Le)

Verboom CE. Depression and role functioning; their relation during adolescence and adulthood
(prof J Ormel, prof WA Nolen, prof BWJH Penninx, drJJ Sijtsema)

Benka J. Living with rheumatoid arthritis: do personal and social resources make a difference?
(prof JW Groothoff, prof JJL van der Klink, dr JP van Dijk, dr I Rajnicova-Nagyova)

Kalina O. Sexual risky behaviour among Slovak adolescents and young adults; social and psychological factors
(prof SA Reijneveld, dr JP van Dijk, dr A Madarasova-Geckova)

Crijns HJMJ. Drug-related safety issues affecting pregnancy outcome and concerning risk minimisation measures; emphasis on pregnancy prevention programmes
(prof LTW de Jong-van den Berg, dr SMJM Straus)

Vries HJ de. Working with pain; sustainable work participation of workers with chronic non-specific musculoskeletalpain
(prof JHB Geertzen, JW Groothoff, MF Reneman, dr S Brouwer)

Karsten J. On the threshold of disorder; definition and course of subthreshold depression and subthreshold anxiety
(prof WA Nolen, prof BWJH Penninx, dr CA Hartman)

Abma FI. Work functioning: development and evaluation of a measurement tool
(prof JJL van der Klink, prof U Bültmann)

Rodrigues HCML. Who's the patient? Ethics in and around maternal-fetal surgery
(prof PP van den Berg, prof M. Düwell)

Munster JM. Q fever during pregnancy; lessons from the Dutch epidemic
(prof E Hak, prof JG Aarnoudse, dr ACAP Leenders)

Holwerda N. Adaptation to cancer from an attachment theoretical perspective
(prof R Sanderman, prof MAG Sprangers, dr G Pool)

Salonna F. Health inequalities among Slovak adolescents over time
(prof SA Reijneveld, prof JW Groothoff, dr JP van Dijk, dr A Madarasova-Geckova)

Kolarčik P. Self-reported health and health risky behaviour of Roma adolescents in Slovakia
(prof SAReijneveld, dr JP van Dijk, dr A Madarasova-Geckova)

Schreuder JAH. Managing sickness absence; leadership and sickness absence behavior in hospital care
(prof JW Groothoff, prof JJL van der Klink, dr CAM Roelen)

Hoen PW. New perspectives on depression and heart disease
(prof P de Jonge, prof J Denollet)

Schaub-de Jong M. Facilitating reflective learning
(prof MA Verkerk, prof J Cohen-Schotanus)

Worp H van der. Patellar tendinopathy. Etiologyand treatment
(prof RL Diercks, dr I van den Akker-Scheek, dr J Zwerver)

Paans N. Patients with hip osteoarthritis. Body weight and life style before and after arthroplasty
(prof SK Bulstra, prof K van der Meer, dr M Stevens, dr I van den Akker-Scheek)

Jin L. Unmitigated communion and support providers' psychological wellbeing
(prof M Hagedoorn, prof R Sanderman, prof NW van Yperen)

De Heer-Wunderink C. Successful community living: a 'UTOPIA'?
(prof D Wiersma, dr S Sytema, dr E Visser)

Härmark L. Web-based intensive monitoring; a patient based pharmacovigilance tool
(prof AC van Grootheest, prof JJ de Gier, dr EP van Puijenbroek)

Jaspers M. Prediction of psychosocial problems in adolescents; do early childhood findings of the preventive child healthcare help?
(prof SA Reijneveld, dr AF de Winter)

Vegter S. The value of personalized approaches to improve pharmacotherapy in renal disease
(prof MJ Postma, prof GJ Navis)

Curtze C. Neuromechanics of movement in lower limb amputees
(prof K Postema, prof E Otten, dr AL Hof)

Alma MA. Participation of the visually impaired elderly: determinants and intervention
(prof ThPBM Suurmeijer, prof JW Groothoff, dr SF van der Mei)

Muijzer A. The assessment of efforts to return to work
(prof JW Groothoff, prof JHB Geertzen, dr S Brouwer)

Ravera S. Psychotropic medications and traffic safety. Contributions to risk assessment and risk communication
(prof JJ de Gier, prof LTW de Jong-van den Berg)

De Lucia Rolfe E. The epidemiology of abdominal adiposity: validation and application

of ultrasonographyy to estimate visceral and subcutaneous abdominal fat and to identify their early life determinants
(prof RP Stolk, prof KK Ong)

Tu HAT. Health economics of new and under-used vaccines in developing countries: state-of-the-art analyses for hepatitis and rotavirus in Vietnam
(prof MJ Postma, prof HJ Woerdenbag)

Opsteegh L. Return to work after hand injury
(prof CK van der Sluis, prof K Postema, prof JW Groothoff, dr AT Lettinga, dr HA Reinders-Messelink)

Lu W. Effectiveness of long-term follow-up of breast cancer
(prof GH de Bock, prof T Wiggers)

For 2011 and earlier SHARE-theses see our website.

ISBN 978 90 367 6169 7